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# USSR Report

ECONOMIC AFFAIRS

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23 April 1985

## USSR REPORT

### ECONOMIC AFFAIRS

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ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

GOSPLAN OFFICIAL SUMMARIZES ECONOMIC EXPERIMENT RESULTS

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 12, Dec 84 pp 9-18

/Article by L. Voronin, first deputy chairman of USSR Gosplan: "Economic Experiment--First Results and Ways of Development"

/Text In accordance with the decree of the CPSU Central Committee and the USSR Council of Ministers "On Additional Measures To Extend the Rights of Production Associations (Enterprises) of Industry in Planning and Economic Activity and To Strengthen Their Responsibility for the Results of Work" a large-scale economic experiment has been carried out at more than 700 enterprises of five industrial ministries as of 1 January 1984. It is an important component of recently adopted decisions aimed at production intensification. They include measures to strengthen labor and production discipline, the law on the labor collective, which increases workers' role in the fulfillment of production and social tasks, a set of measures directed toward a fundamental improvement of affairs in capital construction and other decisions on improving economic management.

In August 1984 the Politburo of the CPSU Central Committee discussed the first results of this experiment and noted the positive effect of the new conditions of work on the results of economic activity of enterprises participating in it. At the enterprises where the experiment is conducted economic work has been vitalized and the interest and responsibility of labor collectives for an improvement in basic economic indicators have increased. The Politburo of the CPSU Central Committee agreed with the proposals by the USSR Council of Ministers and councils of ministers of the Union republics on the extension in 1985 of the experiment to enterprises of a number of sectors, in particular machine building, ferrous metallurgy, food and light industries, local industry and domestic services for the public. This will contribute to the accumulation of the necessary practical experience in industry and central planning departments and will make it possible to more rapidly master and more fully utilize on a large scale the basic elements of the new economic mechanism.

Beginning in 1985 the experiment includes a new range of associations and enterprises and for a successful preparation for its implementation managers of industrial ministries and associations (enterprises) must profoundly study the Basic Principles of the New Economic Mechanism, bring them to the notice of every shop, section and brigade and widely utilize the accumulated experience.

An analysis of the results of work of five ministries by the new method during 8 months of the current year has uncovered positive shifts primarily in the fulfillment of the main evaluating indicator--the volume of sale of output with due regard for the observance of contractual obligations, which is highly important for the proportional and balanced development of the national economy as a whole. The degree of fulfillment of this indicator is characterized by the following data (table 1).

Table 1

Ministry	Sale of output with due regard for delivery obligations, %	
	January-August 1984	January-August 1983
Ministry of Heavy and Transport Machine Building	99.4	97
Ministry of the Electrical Equipment Industry	99	97
Ukrainian SSR Ministry of the Food Industry	100	99.7
Belorussian SSR Ministry of Light Industry	100	99.1
Lithuanian SSR Ministry of Local Industry	100	99

As can be seen from the table, three out of five ministries for the first time have attained the fulfillment of deliveries in full and in the Ministry of Heavy and Transport Machine Building and the Ministry of the Electrical Equipment Industry the number of enterprises fulfilling deliveries 100 percent has almost doubled, as compared with the corresponding period of last year, with a significant reduction in the volume of underdelivered output. In our opinion, such results are due to a decisive degree to the following factors. First, a clear economic demand--to fulfill deliveries 100 percent, that is, fully, without any deviations--has been made on enterprises and, at the same time, effective material incentives for the attainment of this demand have been introduced.

When orders are fulfilled in full and on schedule, enterprises participating in the experiment increase the material incentive fund by 15 percent and, when they are not fulfilled, they lose 3 percent per percent of underfulfillment instead of 1, as was the case before the performance of this experiment. At the same time, as experience has shown, as work is improved, material incentives are not lowered, because the enterprises fulfilling orders in full do not want to disrupt deliveries even by 1 percent, since this will lead to a loss of about 20 percent of the bonus fund.

The interest in providing consumers with the necessary products is also based on the new bonus system, in which more than one-half of the amount of bonuses is paid for the results of economic activity provided the delivery indicator is fulfilled.

Second, the increase in the period of work on the draft plan has had a significant effect on an improvement in the fulfillment of the adopted obligations. Production associations (enterprises) have been given the opportunity to promptly refine the list of products, to conclude economic contracts, to more carefully prepare production for the fulfillment of the planned assignments of 1984 and to better work out problems of material and technical supply and sale of finished products.

Thus, the refinement in the technology of planning was a factor in the improvement in the work of enterprises. In order to consolidate this situation, in July 1984 Gosplan SSSR /USSR State Planning Committee/ and Gossnab SSSR /USSR State Committee for Material and Technical Supply/ adopted a special decree on the procedure and periods of development of draft plans for 1985 of all the ministries transferred to the new conditions of management. At the same time, plans are made to complete the presentation of refined plan indicators by ministries to enterprises in October 1984.

Third, the leading role of the indicator of deliveries in the work of enterprises requires an efficient provision with material resources, a considerable reorganization of existing forms of sale of products and an active participation of territorial supply organs in their marketing. Certain measures in this direction have already been adopted. For example, Gossnab SSSR has changed the procedure of delivery of products shipped to consumers in quantities below transit norms. As a result, the supplier does not accumulate products for a specific consumer to the level of the transit norm, but dispatches them together with other orders to the territorial organ of Gossnab SSSR situated at the consumer's location. Such a procedure simplifies the shipment of products significantly and contributes to an efficient fulfillment of the adopted delivery obligations. The commission for the general guidance of performance of this experiment has instructed Gossnab SSSR and a number of ministries to examine the possibility of organizing such deliveries to territorial bases situated at the consumer's, as well as the supplier's, location. Furthermore, the commission has approved the proposal of ministries and Gossnab SSSR on extending the rights of enterprises in the exchange of the surplus material resources available to them, which has been submitted to the USSR Council of Ministers.

Work on developing direct long economic relations and enhancing their role in the organization of production and supply will continue. These relations will be tested at the enterprises of the Ministry of the Machine Tool and Tool Building Industry and the Ministry of Tractor and Agricultural Machine Building as of 1 January 1985. Other measures to improve material and technical supply are also taken.

The transformation of the indicator of fulfillment of the volume of sale of output with due regard for deliveries into the basic indicator of evaluation of the activity of enterprises determined the reorganization of intraplant planning and management for the purpose of fulfilling a detailed list of products on the dates and in the amounts stipulated by contracts. Labor collectives increased their attention to a refinement in the structure of management of the production and sale of products and to an improvement in the system of

actual planning so that assignments for shops, sections and individual brigades may ensure an immediate fulfillment of consumer orders. For example, the functions of production planning, conclusion of contracts, formulation of orders and sale of products subordinate to the deputy general director of economy were unified in the Uralelektrotyazhmash Production Association of the Ministry of the Electrical Equipment Industry during the period of preparation for work under new conditions.

The role of indicators determining the prompt fulfillment of contracts and the creation of the necessary complete stocks in the evaluation of the activity of subdivisions (enterprises) of associations has been increased. The fulfillment of plans with due regard for contractual obligations has become the most important condition for intraplant socialist competition.

In accordance with the experiment, for the purpose of extending the rights and opportunities of enterprises in ensuring a high technical level of production, the role of the production development fund as the economic incentive fund has been restored. The independence of enterprises and associations in its utilization is ensured and the dependence of the amounts of this fund on the growth of profit has been strengthened. Expenditures on the retooling of associations (enterprises) from the capital of this fund are now financed as part of state capital investments along with centrally approved limits and are allocated in the plan in a separate line as noncentralized capital investments.

Gosplan SSSR and Gosstab SSSR with the participation of sectorial ministries continue the development of a procedure guaranteeing the allocation of equipment and other material and technical resources, as well as the volume of construction and installation work, for the implementation of measures financed in a noncentralized manner from the capital of the production development fund similarly to the procedure of provision of centralized capital investments.

Enterprises participating in the experiment are permitted, for financing the retooling of production, to utilize in excess of the limit of centralized capital investments credits of Gosbank SSSR and part of the depreciation deductions intended for capital repairs.

Part of the single fund for the development of science and technology is also left at the disposal of associations (enterprises). The entire fund is deducted for the ministry and is used at its discretion. This measure will enable enterprises to carry out initiative (above-plan) work on the introduction of new equipment with their own funds.

Some ministries and associations participating in the experiment have a positive experience in an efficient utilization of the production development fund. For example, fulfilling the indicators adopted for 1984, the enterprises of the Ukrainian SSR Ministry of the Food Industry will be able to increase the fund by 19 percent as compared with last year. A limit of noncentralized capital investments from the capital of this fund for the retooling of existing enterprises in the volume of 57.2 million rubles has been established for the ministry as part of state capital investments.

A plan of measures for the retooling of enterprises ensuring an increase in production capacities, improvement in the storage of agricultural raw materials, supplies and products and saving of power resources has also been developed. In 1984 at the expense of the production development fund plans are made to put into operation capacities for the processing of sugar beets (33,500 quintals per day) and for the production of bread and flour products (1.5 tons per day), confectionery products (1,760 tons annually), nonalcoholic beverages (600,000 decaliters annually), beer (800,000 decaliters annually) and other products. For the purpose of eliminating the gap in the calculation and utilization of this fund for retooling, the USSR Bank for Financing Capital Investments granted credit in the volume of 18.3 million rubles to the Ukrainian SSR Ministry of the Food Industry.

The retooling of enterprises is carried out by the ministry's own construction organizations and by the economic method and work is done on 308 projects. According to current data, the plan of the first 6 months for noncentralized capital investments has been fulfilled 108 percent, including for construction and installation work, 105 percent.

Realizing the rights granted by the experiment, the enterprises of the Belorussian SSR Ministry of Light Industry installed 310 shuttleless looms, instead of obsolete 5,400 spinning frames, from the capital of the production development fund during the first 6 months of 1984. An increase in production capacities for the output of sewn articles, leather footwear, hosiery and knitted underwear and outerwear has been obtained.

Machine building enterprises have begun to utilize part of the capital of the single fund for the development of science and technology for initiative research. For example, the Uralmash Production Association has assigned its capital of the fund for work on the development of promising models of continuous billet casting machines, the Altay Railroad Car Plant carries out work on the preparation of a prototype of the railroad car and so forth. However, the efficiency of utilization of the production development fund and other noncentralized sources can be greater and for this it is necessary to uncover existing potentials, whose realization depends primarily on the activity of labor collectives.

A check on the work of individual enterprises participating in the experiment has shown that many plant managers poorly utilize the possibility for an independent and efficient expenditure of their own capital for retooling. For example, according to the data of the USSR Bank for Financing Capital Investments, during the first quarter of 1984 most enterprises of the Ministry of Heavy and Transport Machine Building and the Ministry of the Electrical Equipment Industry did not have developed plans for retooling and calculations of the expected efficiency of implemented measures for the five-year plan. Nor has such work been completed at the Azovkabel' Plant, the Zaporozhtransformator Production Association imeni V. I. Lenin of the Ministry of the Electrical Equipment Industry, the Yuzhdizel'mash Production Association of the Ministry of Heavy and Transport Machine Building and so forth. All this has a negative effect on the further development of enterprises and sectors as a whole and hampers the elaboration of planning estimates for construction.

Problems of overcoming shortcomings in a full and efficient utilization of the production development fund and of detection and realization should become the object of close attention and control of the special permanent commissions for the preparation and performance of the economic experiment established at ministries, associations and enterprises.

In the area of increase in the interest of labor collectives in raising production efficiency and strengthening cost accounting an important role belongs to an extensive utilization of economic standards in the experiment. As a tool of planned management they are called upon to ensure the observance of the economic proportions under changing conditions of annual plans envisaged for the 5-year period. Being an incentive method, these standards create for enterprises and associations during 5 years stable conditions of management and ensure a direct dependence of the funds for wages, social development and retooling of production obtained by labor collectives on the end results of their work.

Wage standards are of decisive importance in an increase in the material interest and responsibility of enterprise and association collectives in labor productivity growth, work with a smaller number of people and improvement in the quality of labor. Essentially, for all industrial sectors participating in the experiment they have been established with due regard for the specific nature of work in the form of a standard of increase in the wage fund per percent of increase in output. Their application means that, if there is no increase in output, there will be no increase in the wage fund. The base fund is retained fully only if an enterprise ensures an increase in labor productivity during the planned period not lower than the average during the preceding 5 years. This requirement forces every enterprise to increase labor productivity and to establish higher rates of growth of the production volume. The objective need to earn the wage fund and the fact that it fully remains at the disposal of an enterprise and can be used for the establishment of increases of and additions to rates and salaries of workers and engineering and technical personnel are the main factors in the increase in their interest in the adoption of more stepped-up planned assignments. After all, the established increases of and additions to rates of workers and salaries of engineering and technical personnel are not permanent. They are paid only in case of improvement in the indicators of work of the enterprise and workers as a whole.

Experience shows that the measures to stimulate work with a smaller number of people adopted in the experiment give positive results. At the enterprises of the Ministry of the Electrical Equipment Industry about 20 percent of the derived savings have been allocated for the establishment of wage increases and additions on the basis of the results of the first quarter of 1984. At the same time, out of the total amount envisaged for the establishment of increases and additions 41.8 percent has been utilized for additional payments for holding two jobs (including 37.9 percent for workers), 17.9 percent for high occupational skills, 14.3 percent for the establishment of salaries for workers and about 30 percent for additional payments and raises for engineering and technical personnel for high qualifications. Therefore, more than 70 percent of the funds utilized for these purposes have been given to workers and the rest to engineering and technical personnel.

At the enterprises of the Ukrainian SSR Ministry of the Food Industry the proportion of workers receiving additional payments comprises 20.5 percent of the total number of workers of fourth to sixth categories and higher salaries have been established for 410 highly skilled workers employed in especially important and responsible jobs. The numerical strength of engineering and technical personnel receiving salary increases has risen 1.3-fold.

A study of the work of enterprises under the new conditions indicates that the establishment or cancellation of wage increases depends on managers of enterprises, shops and sections, as well as brigade collectives, and is an effective means of stimulating highly productive labor.

The interest of enterprises in the saving of the wage fund increased their responsibility for its expenditures. In the process of control of the USSR State Bank it was established that the number of production associations (enterprises) overspending this fund was reduced at the Ministry of the Electrical Equipment Industry, the Ministry of Heavy and Transport Machine building and the Ukrainian SSR Ministry of the Food Industry during the first quarter of 1984. At the same time, the amount of overexpenditure was reduced to almost one-half. At the Belorussian SSR Ministry of Light Industry and at the Lithuanian SSR Ministry of Local Industry not a single enterprise overspent the wage fund.

As a result of the combined effect of the economic levers applied in the experiment, the enterprises of the Ministry of the Electrical Equipment Industry worked with a numerical strength of personnel lower by 5,000 people than the planned one and at the Ukrainian SSR Ministry of the Food Industry it was reduced by 2,200 people, as compared with last year, and labor turnover was lowered from 18 to 5 percent. It is characteristic that during 1½ years requests to increase the numerical strength of personnel were not received from the enterprises of ministries participating in the experiment.

However, it would be incorrect to reduce workers' interests in raising labor productivity to an increase in wages alone. The fund for social and cultural measures plays an important role in the stimulation of the improvement in the end results of enterprise work. In the future it is planned to transform this fund into the basic source of solving the housing problem at enterprises.

The way the fund for social and cultural measures "works" can be observed using the calculation made for 1985 (in two versions) for the Izhorskiy Plant Production Association imeni A. A. Zhdanov of the Ministry of Power Machine Building as an example. The first version is based on the procedure in effect before the transition to the experiment. The second is calculated in terms of the conditions that will be in effect in 1985 for machine building enterprises participating in the economic experiment. According to the experiment the fund for social and cultural measures and housing construction of the base year of 1984 increases by 4 percent per percent of increase in labor productivity. Furthermore, for the enterprises of the Ministry of the Electrical Equipment Industry, the Ministry of Power Machine Building, the Ministry of Instrument Making, Automation Equipment and Control Systems and the Ministry of Chemical and Petroleum Machine building this fund will additionally rise by 10 percent, while enterprises will be ensured of an annual reduction of no less than 1.5 percent in material expenditures per ruble of commodity output.

According to the draft plan of the Izhorskiy Plant Production Association imeni A. A. Zhdanov for 1985 labor productivity will increase by 6.6 percent, as compared with 1984, and material expenditures will decrease by 2.4 percent. With such indicators the association's fund for social and cultural measures calculated in the two versions indicated above will amount to the following value (table 2).

Table 2

		(in thousand rubles)			
		1985--draft plan			
		under conditions existing before the experiment		under conditions of the experiment	
1984		absolute amount	increase in relation to 1984	absolute amount	increase in relation to 1984
Fund for social and cultural measures and housing construction	1,349	1,530	181	1,906	557

As can be seen from the presented calculation, the increase in the fund under the conditions of the experiment is three times higher than before the experiment. The amount of increase according to the second version is equal to the value of 50 modern two-room apartments, which is perceptible even for such a big enterprise as the Izhorskiy Plant.

If the association retains the indicators adopted for 1985 for the entire 12th Five-Year Plan, by 1990 its fund will increase by 2.5 million rubles, that is, it will triple. Before 1990 the association will be able, through the increase in the fund for social and cultural measures and housing construction alone, to commission 10 houses with 96 apartments and to meet two-thirds of the collective's need for housing. Under ordinary conditions by 1990 the association would have increased its fund by only 1.2 million rubles and less than 25 percent of the collective's need for housing would have been met.

Thus, by the end of the 12th Five-Year Plan many enterprises participating in the experiment will be able to meet the basic social needs of labor collectives from their own cost accounting sources. If we take into consideration that the increase in noncentralized capital investments in nonproduction construction under the new conditions will be made, as a rule, with an appropriate decrease in centralized allocations for these purposes, the transition to the "earning" by enterprises of funds for the solution of social problems can be made without a significant general increase in state expenditures.

Evaluating the first results of work of five ministries according to the new method, the Politburo of the CPSU Central Committee stressed the need for the further improvement in its conditions. First of all, this applies to the strengthening of cost accounting, intensification of the effect of the economic mechanism on the acceleration of scientific and technical progress, an efficient utilization of all types of resources and a fuller consideration of the specific nature of the work of sectors.

Enterprises working under the conditions of the experiment are oriented toward the intensification of scientific and technical progress to a greater extent than now. For these purposes additional measures are envisaged. First of all, it is necessary to accelerate the introduction in sectors carrying out the experiment the provisions of the decree dated 18 August 1983 of the CPSU Central Committee and the USSR Council of Ministers aimed at the introduction of state certification of products. Such a certification is made only for products presented for the award of the Badge of Quality. An evaluation of remaining products is made by sectorial departmental commissions. The transition to state certification according to superior and first categories will greatly increase the requirements for the technical and economic level of articles, making it possible to activate such an important economic lever of renovation of output and improvement in its quality as incentive increments for products of the superior category and reductions in wholesale prices of articles, which have not gone through certification. In connection with this machine building ministries participating in the experiment were instructed in 1984 to complete the state certification of products of the greatest national economic importance. The USSR State Committee on Prices, the Gosplan SSSR and the USSR Ministry of Finance determined the procedure of a prompt application of reduction of wholesale prices of products not included in the first or superior quality category.

The next measure lies in raising the technical level and quality of new products newly mastered at enterprises provided they meet the requirements placed on articles of the superior quality category. For this purpose machine building ministries were instructed, jointly with the State Committee for Standards and the State Committee for Science and Technology, to introduce appropriate changes in sectorial standards for the development and mastering of products in 1984.

Intensifying the interest and responsibility of machine building enterprises in increasing the production of export products is also an important measure. Beginning in 1985 provision has been made for approving assignments for mastering these products in physical and value terms, as well as for producing spare parts, accessories and units, for machine building enterprises. At the same time, measures ensuring an increase in the economic and financial interest of enterprises and workers in the output of export products have been established. For this deductions in foreign currency for the delivery of products for export for a freely converted currency have been differentiated and increased for enterprises.

The enumerated measures in combination with those previously adopted will have a certain effect on a rise in the technical level and quality of output and an increase in production efficiency. However, work on improving the planning and financing of technical progress measures and the search for efficient economic methods of production intensification on the basis of introduction of the latest equipment and technology require further improvement.

The interest and responsibility of enterprises participating in the performance of the economic experiment in the saving of material resources are increasing. At present society's demands on enterprises and ministries concerning the saving of material resources, on which production cost planning is based, are

insufficient. Assignments concerning a reduction in the norms of expenditure of specific types of materials at the level of Gosplan SSSR encompass only about 15 percent (in machine building sectors, 20 to 40 percent) of the entire mass of consumed materials in terms of value. They are established with respect to norms previously in effect, which is not very effective. The method of plan development taking into consideration various assortment shifts also has a negative effect.

To ensure an overall effect of economic levers and incentives envisaged in the experiment on basic factors in production intensification, it is necessary to clearly formulate and determine society's quantitatively minimal demands on enterprises for an annual improvement in the utilization of material resources. For these purposes for enterprises of a number of machine building ministries provision has been made for the introduction of an additional standard economic demand--to lower material expenditures in value terms by 1.5 percent annually per ruble of output. When this demand is attained or exceeded, enterprises receive the right to additionally increase incentive funds and, when it is not fulfilled, to reduce them, which will become an important means of mobilizing and uncovering potentials during the preparation of the draft plan from below.

In accordance with the conditions of the experiment work on the further improvement in cost accounting for the purpose of granting greater independence and responsibility to enterprises in production development will continue. In 1985 plans are made to take measures ensuring the implementation by individual enterprises of the entire process of production and its retooling on the basis of self-recovery. In connection with this proposals on this matter by the Ministry of the Automotive Industry and the AvtoVAZ Production Association, as well as by the Sumy Machine Building Production Association imeni M. V. Frunze of the Ministry of Chemical and Petroleum Machine Building, deserve to be studied.

A proper organizational preparation plays an important role in the performance of this experiment. Its general guidance is carried out by a special commission. It includes managers of all central departments, ministers of industrial sectors and scientists. Appropriate commissions examining problems pertaining to their competence have also been established in all central departments. The necessary sectorial staffs for guiding the experiment in industrial ministries have been organized. Experience indicates that associations and enterprises, which from the very beginning establish groups of responsible officials, who with the participation of public organizations coordinate and control the entire work on the introduction of the experiment, have positive results. Refining the structure of intraplant management of the production and sale of products for ensuring optimum conditions for the correct planning and control of production for the purpose of fulfilling all contracts for the delivery of products on the scheduled dates is an important element of the organizational preparation.

The organization of the training of personnel on all levels occupies a special place in the preparation of the experiment. As experience has shown, more attention should be paid to this measure, which is connected primarily with the need to raise the level of guidance of the experiment, as well as with the fact that since 1985 it includes 1,850 additional industrial enterprises and more than 3,000 enterprises for domestic services for the public, that is, about 6,000 associations (enterprises) will operate according to the new method.

Workers of all levels will be trained at the Academy of the National Economy, sectorial and intersectorial institutes, faculties for improvement of skills and directly at enterprises. Methodological documents and instructions, study guides and articles and pamphlets for the popularization of the tasks set and the principles of the experiment will be published to aid the training system.

The drawing up of a detailed plan for the retooling of production for 1985 with the capital of the development fund and other noncentralized sources is of great importance for a successful performance of the experiment. Such plans should be examined at enterprises during the fourth quarter of this year. In turn, on the basis of these plans ministries should be given orders for the necessary equipment and materials.

Finally, bringing the adopted measures to increase the independence and responsibility of enterprises for the results of work to the notice of direct executors and developing cost accounting further are significant potentials for an increase in the efficiency of these measures.

Under the new conditions of management production assignments should be brought to the notice of brigades so that a prompt fulfillment of the concluded contracts may be ensured. Brigades will be able to utilize the obtained savings of the wage fund for the establishment of raises and additional payments, that is, to affect the quality and labor productivity to a greater extent than before. For example, additional 344 new-type brigades unifying 7,000 workers were established at light industry enterprises in the Belorussian SSR during the first 6 months of 1983. Involvement in the brigade form of labor organization increased from 59.7 to 64.3 percent, including for auxiliary production, from 32.8 to 37 percent.

At the enterprises of the Ukrainian SSR Ministry of the Food Industry in 1984 the proportion of workers unified into brigades increased, as compared with 1980, from 65 to 71 percent, including in brigades, in which wages are calculated according to a single order for the end results of work, from 56 to 81 percent, and with the application of the coefficient of labor participation, from 14 to 62 percent. The number of brigades small in number was reduced.

Under the conditions of the experiment material incentives for labor productivity have increased considerably and occupational skills have risen. As already noted, enterprises widely utilize for this the right to establish wage additions and increases from the obtained savings of the wage fund granted them. For example, special provisions for the establishment of additional payments and increases for the purpose of intensifying their stimulating effect on the result of labor have been developed at the Kran Production Association, the Dnepropetrovsk Electric Locomotive Construction Plant and the Miass Miassselektroapparat Electrical Equipment Plant. An attempt to raise the moral significance of increases and additional payments on the basis of an extensive publicity of this measure for the specific results of labor is observed. Declarations on their establishment are timed to coincide with significant dates of a collective and a sector, holidays and so forth.

However, new possibilities of material incentives are not yet correctly utilized at all enterprises. According to the data of the sample survey conducted by the USSR State Committee for Labor and Social Problems, for example, at the Grodno Spinning-Thread Association of the Belorussian SSR Ministry of Light Industry and at the Byarzhys and Zhavedra enterprises of the Lithuanian SSR Ministry of Light Industry more than one-half of the workers receiving salary increases are engineering and technical personnel. Foremen, senior foremen and chiefs of sections, shifts and shops are represented among them to a greater extent. For example, at the Novokramatorsk Machine Building Plant imeni V. I. Lenin 80 percent of the shop chiefs receive raises and at many enterprises of the Belorussian SSR Ministry of Light Industry, all shop chiefs. The number of designers and technologists is much smaller. This is hardly correct.

An increase in material interest and an improvement in labor organization contribute to the strengthening of labor discipline. For example, work time losses at the enterprises of the Ukrainian SSR Ministry of the Food Industry have decreased by 18.5 percent, including unauthorized absences from work, by 7.5 percent and absences from work with the administration's permission, by 24.4 percent.

Work according to the new method by every enterprise subdivision and bringing the principles of the experiment to the notice of all workers are mandatory conditions for the further increase in production intensity.

Measures to improve the economic mechanism conducted by the party and the government are important stages in the overall improvement in economic management. They make it possible to check in practice the efficiency of the adopted decisions, to eliminate shortcomings and to map out ways of improving planning and stimulation with a view to entering the 12th Five-Year Plan with an improved economic mechanism.

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ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

UNION REPUBLIC OFFICIALS COMMENT ON ECONOMIC EXPERIMENT

Georgian Results Described

Tbilisi ZARYA VOSTOKA in Russian 5 Jan 85 p 3

[Valerian Vadachkoriya, deputy chairman of Georgian SSR Council of Ministers:  
"Guideline--To End Result: To the 15 Enterprises Participating in the Wide-Scale Economic Experiment Last Year, Another 11 Have Been Added"]

[Text] Each stage in the development of our country's economy has its own special features. In not quite seven decades, our national economy has traveled the road of industrialization, reconstruction and restoration. The eighties mark a new and very important stage in the forward movement of the Soviet economy--transition to a primarily intensive method of operating the economy. Such is the nature of expanded reproduction under the conditions of mature socialism. Deep analysis of concrete ways of intensifying the economy and program positions of its further accelerated development delineated in the speech of General Secretary of the CPSU Central Committee, Chairman of the Presidium of the USSR Supreme Soviet Comrade K.U. Chernenko at a meeting of the Politburo of the CPSU Central Committee on 15 November of last year were vividly expressed in the decisions of the Second Session of the 11th Convocation of the USSR Supreme Soviet. The transition being carried out at this stage to intensive operation of the economy is of lasting economic and political importance. The fact is that intensification of production makes it possible to increase in every possible way not only the volume but also the share of the national product which can be used for raising the material and cultural level of workers.

Success in intensification of production can be achieved only in those cases where economic and social measures, stimulating the use of the accumulated technical potential, are implemented hand in hand with technical innovations in such a way that the rule of socialist management: maximum result with minimum cost is strictly observed at each workplace. In this frame of reference, major interest is presented by the large-scale economic experiment being conducted since 1 January of last year in accordance with the decisions of the CPSU Central Committee and the USSR Council of Ministers and is aimed at the creation of such conditions of management as would develop the initiative and enterprise of workers and contribute to rapid reequipment of enterprises and the attainment of high end results.

The chief objective of the experiment is intensification of public production. Enterprises taking part in the experiment have been assigned the following basic conditions: strict fulfillment of contractual obligations, boosting of labor productivity and reduction of production cost and, finally, an increase in the output of products of the highest category of quality. From this stem all forms of reward and measures of influence.

Today it can be said quite definitely that all the 15 enterprises included in the organization of the USSR Ministry of Electrical Equipment Industry and the Tskhinvali Vibromashina Plant belonging to the USSR Ministry of Heavy Machine Building were the first in the republic to take part in the experiment and to achieve good results. In the past year, they fulfilled commodity production 103.4 percent and sales--104.7 percent. Almost 15 million rubles' worth of products were sold above plan. The target for labor productivity was fulfilled 105 percent; 96 percent of production growth has come from growth of labor productivity. This indicator for the corresponding period of last year was 83 percent.

As we know, strict delivery discipline is the chief rating indicator of the operation of enterprises taking part in the experiment. Almost all the enterprises, and especially such large ones as the Tbilisi Electric Locomotive Plant imeni Lenin, Elektrosvarka, the Batumi Electromachine Plant, and the Tskhinvali Vibromashina Plant have been ensuring since 1984 fulfillment of the delivery plan and of all contractual obligations.

But unfortunately not all labor collectives have made questions of strengthening delivery discipline as their cornerstone. Thus five enterprises of the sector--the Poti Plant of Electromachine Amplifiers, the Kavkaztransformator and Elektroapparat production associations, the Tskhinvali Emal'provod Plant and the Tbilisi Elektroizolit Plant did not fulfill state sales targets taking into account contractual obligations. Analysis showed that the basic causes of nonfulfillment of this indicator are poorly timed bolstering of the plan with appropriate resources, lack of well-defined cooperation with product users and breakdowns in delivery of products made cooperatively.

The program of conducting the experiment provides significant material incentives for those who secure technical progress and production of quality products. The relative share of products with the state Seal of Quality solely at enterprises of the Ministry of Electrical Equipment Industry operating under the conditions of the experiment constituted last year 62 percent versus 55 percent in the preceding year. Losses from faulty production were reduced by more than 15 percent. At Gruzelektromash and Kavkaztransformator production associations and at the Tbilisi Elektrosvarka, the Batumi and Kutaisi electromachine plants, the Potielektroapparat Plant and at Gruzkabel' Plant, the relative share of products with the state Seal of Quality amounts to 75 percent.

Wide-scale introduction of low-waste and waste-free technology, maximal use of secondary resources, development of optimal, scientifically based norms of expenditure of raw and other materials, targets for reduction of material

outlays, inculcation of thrift and diligence are essential conditions for intensification of production. And quite good results have been achieved in this work. Thus cost per ruble of commodity production was reduced by 1.9 kopecks. The result was an economic effect in the sum of 2,533,000 rubles.

Strengthening of the normative base of planning and accounting of production costs have made it possible to secure above-plan profit amounting to 4.5 million rubles. The profit growth rate vis-a-vis the corresponding period of 1983 was 124.1 percent. Material outlays compared to the plan were reduced by 1.74 kopecks, or 2.6 percent.

Today it would hardly be necessary to convince anyone of the superiority of brigade forms of organization and stimulation of labor--this has already been proved by practice. The number of such brigades is constantly growing in the republic. There are many enterprises where they have already attained an optimal level. Altogether 1,110 large complex brigades containing masters and engineering and technical personal have been created at enterprises participating in the experiment. Of these brigades 803 are working on the basis of a unified work order.

But this does not mean that all the possibilities of brigade forms for raising labor productivity have been fully put into operation. Attention is drawn to the fact that not all brigades have attained growth of labor productivity, marked reduction of faulty output or excessive losses of worktime. There are those enterprises where regulations have still not been worked out for brigade cost accounting nor material incentives and accountability provided for economy of different kinds of material resources. And the fact is quite intolerable that only 57 brigades have been transferred to full cost accounting.

Heads of enterprises need to pay more attention to the creation of integrated and multiple-skill brigades, which would make it possible to increase the volume of complete work, to combine related occupations, to expand servicing areas and through this to satisfy the need of the economy for worker occupations that are in acute short supply.

Successes are also to be found in the use of production capacities and fixed production capital as well as in raising the equipment shift coefficient. Bruzkabel', Elektroizolit, Elektrosvarka, Elektroelement and others have attained the best indicators. At the same time, the general level of use of capacities for the sectors would be significantly higher if individual enterprises of Tbilisi and Batumi were to implement more effective measures for improving this indicator.

Quite good results are to be found in regard to strengthening production and labor discipline, certification and rationalization of workplaces. The importance of this work is emphasized in the recently adopted decree of the CPSU Central Committee "On the Work Experience of the Collective of Dnepropetrovsk Combine Plant imeni K.Ye. Voroshilov in Boosting the Effectiveness of Use of Production Capacities on the Basis of Putting into Practice Certification of Workplaces and Their Rationalization." In the course of certification, the level and the conformity of each workplace to

present-day requirements of equipment, technology and organizations are analyzed and the extent of mechanization, quality of norm setting and conditions of labor are determined. The obtained data are used for improving workplaces, eliminating those of them which are excessive or rationalizing those which are declared unsuitable.

Today, in the period of active preparation for the 27th CPSU Congress, all the conditions exist to make the labor of each worker more productive--the latest machine-tool equipment, robots and manipulators, rotor lines and processing centers are being intensively introduced. Obsolete equipment, which lies as a heavy weight on production should be withdrawn as quickly as possible from the production process.

Thanks to strengthening of labor and production discipline and improvement of workplaces, the relative share of worktime losses in the total time worked in 1984 was reduced compared to 1983. Personnel turnover has also been reduced. But at Gruzelektromash Production Association and the Tskhinvaly Vibromashina Plant, these indicators unfortunately have deteriorated somewhat. Of late, less attention has begun to be paid at some enterprises to such an important indicator as reduction of above-norm surpluses of commodity and material assets, while the turnover rate of actual regulated turnover capital has been speeded up. This is the chief reason for the fact that above-norm surpluses at enterprises operating under the conditions of the experiment amount today to more than 3 million rubles.

The experiment will be of great benefit, become more significant and effective if it finds associates and if the experimenters are provided requisite, effective assistance. Here it should be pointed out that all questions arising in the course of the experiments are examined at meetings of the work group for providing help in the conduct of the experiment and certain measures based on them are adopted. The republic's Gosplan and Gossnab, freight offices [gruzkontory] of Gosbank and Stroybank USSR, the Georgian Ministry of Motor Transport, the Transcaucasus Railway Administration, other ministries and departments and party and soviet organizations are providing much practical aid.

Since 1 January 1985, 11 enterprises of the USSR Ministry of Machine Tool and Tool Building Industry, the Ministry of Tractor and Agricultural Machine Building and the Ministry of Instrument Making, Automation Equipment and Control Systems have been included in our republic together with other sectors in the experiment. They include such a large association as Stankostroitel'. It is necessary to create maximally favorable conditions for their active participation in carrying out the experiment. On the whole, this will contribute to the successful fulfillment of the targets of the 11th Five-Year Plan and the creation of a solid foundation for the next five-year plan and for the period to the year 2000.

Estonian Improvements, Some Misses

Tallinn SOVETSKAYA ESTONIYA in Russian 5 Jan 85 p 2

[Article by I. Belistov, first deputy chairman of Gosplan ESSR: "The Economic Experiment: Lessons and Prospects"]

[Text] The existing economic mechanism in our country essentially took shape at the stage preceding the building of mature socialism. Undergoing certain changes in recent years, it retained at the same time a great deal from that which was inherent in the preceding stage of socialist society's development. As a result, there arose and was gradually exacerbated a contradiction between a qualitatively new level of productive forces, on the one hand, and existing forms of production relations, on the other. Measures for further improvement of the economic mechanism have been proposed to resolve this contradiction.

The decree of the CPSU Central Committee and the USSR Council of Ministers of 14 July 1983 provided for carrying out, beginning with 1984, an economic experiment relating to expansion of rights in planning and economic activity and relating to strengthening accountability for the operational results of production enterprises of five ministries: the USSR Ministry of Heavy and Transport Machine Building and the Ministry of Electrical Equipment Industry, the Ukrainian Ministry of Food Industry, the Belorussian Ministry of Light Industry and the Lithuanian Ministry of Local Industry. Among those first entrusted with taking part in the experiment are the collectives of four enterprises of the electrical equipment industry located on the territory of our republic: TEZ imeni M.I. Kalinin Association and the plants Vol'ta, Eesti Kaabel' and Estoplast.

It is too early to make any far-reaching conclusions on the basis of today's operational results of the enterprises under the new conditions of management. The fact is that work in a new way requires serious revision of the system of planning and management, economic accountability and also recasting of the economic thinking of workers of any rank and of their attitude toward the work. Still certain preliminary conclusions may already be made.

As we know, the conditions of the experiment provide a series of measures for boosting the role of the indicator of production sales volume while taking into account fulfillment of contractual obligations. Thus for fulfillment of contractual orders in their entirety and on time, the material-incentive fund of enterprises is increased by 15 percent. For each percent of nonfulfillment of the delivery plan, the material-incentive fund is reduced by 3 percent and, furthermore, sizes of bonuses for economic managers are significantly reduced. The effectiveness of these sanctions is already appreciable in the case of our enterprises.

While in 1983 all four enterprises failed to meet their delivery commitments in any quarter, under the conditions of the experiment, TEZ imeni M.I. Kalinin and Eesti Kaabel' Plant have been stably providing 100-percent fulfillment of contractual commitments, which makes it possible for the collectives of these enterprises to increase the sizes of the material-incentive funds respectively

by 97,000 rubles and by 13,000 rubles. The "other side of the coin," that is, higher accountability for nonfulfillment of contractual commitments for delivery of their products to consumers has been felt by the collectives of Vol'ta and Estoplast plants. And while the amount of undelivered products by them for 1984 contracts was significantly reduced (compared to 1983), the actual fact of nonfulfillment of the delivery plan resulted in the material-incentive funds of these enterprises "being lightened" respectively by 24,000 and 11,000 rubles.

Realization of new possibilities for improvement of planning, technical improvement of production, introduction of new technology, strengthening of cost accounting and the main thing--for development of creative initiative and heightening of interest of labor collectives in growth of production efficiency has animated the economic activity of the participants of the experiment and obliged them to actively search for internal reserves. All this has not slowed down the effect on indicators of operational efficiency of the enterprises.

Thus all four enterprises fulfilled the planned target for 11 months relating to growth of labor productivity (calculated on the basis of normative net production) and an additional target of the party for above-plan growth of one percent of this most important indicator (except for the Vol'ta Plant). Moreover, the degree of fulfillment of the plan for this indicator at enterprises is higher than for the corresponding period of 1983. At Vol'ta and Eesti Kaabel' plants, the entire growth of production volume will come from growth of labor productivity. At TZS imeni M.I. Kalinin Association and Estoplast Plant, the share of growth of production volume through growth of output amounted to 96 percent.

Under the conditions of the experiment, stable norms are being established for formation of the wage fund, and our enterprises feel confident that these norms will remain unchanged should the number of workers be reduced or should it not exceed the established limit. As of 1 December 1984, at all four enterprises, the actual size of industrial and production personnel was below the limit, while at Vol'ta and Eesti Kaabel' plants, it is lower than in 1983.

For the 9-month results, the participants of the economic experiment (except Vol'ta Plant) showed also good results for another indicator of production efficiency--reduction of outlays per ruble of commodity production. But toward the end of the year, the state of affairs began to change for the worse, and for 10 months the plan target for reduction of production cost was not fulfilled by the Vol'ta, Eesti Kaabel' and Estoplast plants. The profit plan for the same period managed to be fulfilled by only two enterprises--TEZ imeni M.I. Kalinin Association and Eesti Kaabel' Plant.

It is necessary to note that despite better material and technical supply, unevenness of production is observed at the enterprises and the effort is not proceeding according to the plan. As a result, Vol'ta, Eesti Kaabel' and Estoplast plants had above-plan reserves of commodity stocks for which payment under the conditions of the experiment is taken out of a portion of profit remaining at the disposal of the enterprises.

The experience of the past year shows first that not all the participants fully utilize the possibilities presented by the experiment (this is due basically to slow reforming of managers' thinking and of the style and methods of managing the operation both at the enterprises and at the superior organs of administration. And, second, the fact is that individual experimental conditions of management require further work and development. In particular, the proposal is made for more flexible order in forming incentive funds while taking into account the intensity of the attained indicator. Reduction of production costs and more effective utilization of resources have so far been weakly rewarded.

The experiment on improving the economic mechanism has made its first steps. Much work lies ahead on developing it.

Beginning with 1985, republic enterprises of light and food industry and personal services and also certain enterprises of union machine-building enterprises located on the territory of the ESSR have been operating under new conditions of management. We are thus dealing with carrying out in the republic's economy a large-scale economic experiment or, should one be more precise, a series of sectorial economic experiments. The objectives of these experiments are shared in common--increase of production output, improvement of its quality and assortment, development of creative initiative and increased interest of collectives in the quality of end work results.

In the course of the started experiment, the number of indicators planned by superior organs was reduced for the participants of the experiment, while the sphere of application of economic norms determining wage and economic-incentive funds, which are to be stable for the entire period of the 20th Five-Year Plan, is being expanded. Sizes of all the funds have been made entirely dependent on end results. Under the conditions of the experiment, rights of enterprises are expanding in the use of the economic wage fund for additional pay for workers, engineering and technical personnel and employees with respect to basic rates or salaries for skill and combining two jobs as well as for persons engaged in particularly important and responsible work.

In addition to the conditions which have already undergone experimental verification, measures are provided aimed at speeding up scientific-technical progress, increasing responsibility for use of material resources and stimulation of their economy, boosting the interest of enterprises in increasing production output for export and so forth.

For the purpose of speeding up scientific-technical progress at enterprises of machine-building sectors included in the experiment (there are seven such enterprises in our republic), state certification of machines, equipment and instruments of very important national-economic value will be carried out. Should such products not deserve certification in the first or higher category of quality, discounts from wholesale prices would be established for them, which would put under question their further manufacture. New items must correspond as a rule to the highest category of quality.

Beginning with 1985, the stimulating role of the fund of social and cultural measures and housing construction will be increased. Norms of deductions from

profit for this fund for growth of labor productivity will be increased and capital investment financed from the resources of this fund are designated as part of state capital investment with corresponding provision of material resources and limits of contracting work. A real possibility will appear at enterprises to expand construction of dwelling houses, kindergartens, nurseries, pioneer camps, preventoriums and boarding facilities.

For the purpose of stimulating economy of material resources and increasing accountability for their use, it is proposed at enterprises of the Ministry of Instrument Making, Automation Equipment and Control Systems (of which there are four in our republic), the Ministry of Chemical and Petroleum Machine Building and at enterprises of the Ministry of Electrical Equipment Industry to test the following instrument from the arsenal of resources for improving the economic mechanism. Enterprises would have to reduce material expenditures on production by not less than 1.5 percent a year (computed per ruble of commodity production). If they cope with this assignment, they will be given the right to form a fund of social and cultural measures and housing construction 10 percent greater than by direct calculations. Overfulfillment of this target would be additionally stimulated. But the fund of social and cultural measures of those who have been unable to cope would be reduced.

Interesting innovations are to be found at enterprises of our republic's light industry. In particular, it is contemplated here to economically and organizationally connect production, supply, sale and trade in commodities. It is also proposed to additionally stimulate personnel of enterprises and ministries to exceed the growth rate of labor productivity compared to the preceding year and to raise the level of satisfaction of the population's demand. Permission was given to test the contracting form of organization and remuneration of labor of workers, engineering and technical personnel and employes outside the limits of work time for basic activity. The procedure of price formation for new goods of improved quality, particularly stylish items and other products, is being simplified. Moreover, the ESSR Ministry of Light Industry has been given the right to reduce the price at the expense of its own financial reserves of surpluses of goods removed from production and lying in warehouses of enterprises and organizations of the sector. In the course of the experiment other instruments for improving the economic mechanism will also be tested.

The work experience acquired in 1984 by the four enterprises of the USSR Ministry of Electrical Equipment Industry indicates that in order to realize all the possibilities created by the new conditions of management, it will be necessary to decisively overcome the inertia of the old style of management, first of all on the part of sectorial organs of management. Personnel of ministries and heads of enterprises have to pay special attention to development of intraplant cost accounting so as to get the adopted measures on improving the economic mechanism reach local units. It is necessary now to translate basic directives and positions of the experiment into a language of clear-cut targets, accountability for their fulfillment and motivation for overfulfilling them understandable to every shop, sector, brigade and worker.

Success of the experiment depends on executors, their competence and initiative. All managers participating in this important undertaking need to

occupy themselves more with vital, concrete work among collectives. In those sectors where people are still working under the old conditions, it is necessary to prepare for the reorganizations without waiting for commands from above. The most important thing is to unite economic search from "above" with development of local cost accounting and with the development of brigade forms of labor organization and remuneration for the end result.

The experiment is not a temporary campaign but a creative search. Its aim is the development of an effective and efficient system of operating our economy for many years to come.

#### Lithuanian Achievements and Lapses

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 4 Jan 85 p 2

[Article by A. Brazauskas, secretary of the Central Committee of the Communist Party of Lithuania, Vilnius: "Search for New Ways"]

[Text] You always feel the beginning of something new as a time of analysis, of looking into the future. Ahead an extraordinary year in many respects awaits us--a year of active preparation for the 27th CPSU Congress, the year of the 40th anniversary of the Victory of the Soviet people in the Great Patriotic War. Work in the new year as Comrade K.U. Chernenko pointed out, will be marked by mobilization of all resources for successful completion of the present five-year plan and the creation of a good, solid foundation for the 20th Five-Year Plan.

Lithuania's economy in the final year of the five-year plan started out with a good reserve. Industry fulfilled plans for production and sale of commodity products and output of most of important types of items. Only just recently, each third enterprise failed to meet contractual commitments. Now they are being completely fulfilled by 94 of every 100 enterprises and associations. For the republic as a whole, the sales plan, taking into consideration deliveries, was fulfilled 99.6 percent. Improvements also took place in boosting efficiency of industrial production. In four years of the five-year plan, growth of labor productivity exceeded the level designated in the five-year plan.

The economic experiment was given special attention by the republic's party organization. Today it is clear that it has basically justified itself: at enterprises of the Lithuanian SSR Ministry of Local Industry and the Ministry of Electrical Equipment Industry, organization of production was improved and fulfillment of most economic indicators was secured. Today the new conditions of management have been disseminated to enterprises of the republic's ministries of local industry and personal services as well as enterprises of a number of machine-building sectors. Their share is roughly 30 percent of all commodity production of industry and about 37 percent of all production personnel in industry.

Such a scale of the economic experiment demands heightened concern for effectiveness of its preparation and implementation. These questions were carefully examined by the Bureau of the Central Committee of the Communist Party

of Lithuania and at the seminar-conference of heads of ministries and departments, secretaries of party gorkoms and raykoms and economic managers of enterprises. Party and economic personnel are directed to constantly analyze work under the conditions of the experiment, to adopt and utilize without delay the best methods and to look for new ways of raising management efficiency.

Positive improvements and a certain reserve--these, of course, are good. Still the last year of the five-year plan will not be an easy one. It will require exertion of energy, strengthening of organization and order. The fact is that individual associations and enterprises so far are lagging behind the five-year targets both for volume of production and for rate of growth of labor productivity. Light industry evokes the biggest misgivings. It cannot be said that targets for production of consumer goods are not being fulfilled. The problem is something else: assortment and quality of fabrics, clothing and footwear are slow in being improved. And the customer today does not simply demand a commodity, but a commodity that is specific, of good value and high quality.

Solution of the problem is primarily seen in raising the party's insistence on a high standard for economic personnel and engineering and technical personnel. Today we have to concern ourselves not so much with quantitative growth of production, although it is still needed in some forms of consumer goods, as in a sharp upgrading of its technical level and improvement of production quality. General success depends on the substantiveness of the individual contribution of each worker regardless of where he might be working. It is necessary to learn to manage rationally and to utilize more effectively all unused resources.

The chief way is technical modernization. For the current year, the capital-labor ratio in the republic is planned to be raised by 4 percent through accelerated introduction of the achievements of sciences and technology into production. But the most important thing, I believe, is to learn to ably operate these processes. We have the levers for this. These are concrete measures adopted by the Central Committee of the Communist Party of Lithuania and the Lithuanian SSR Council of Ministers for intensifying industrial production, speeding up introduction of industrial robots and boosting labor productivity in industry. They are aimed at increasing the effectiveness of scientific research, intensifying the role of science in speeding up scientific-technical progress and improving training of scientific-research personnel. For the long term--to the year 2005, an integrated program of scientific-technical progress for the republic and a scheme for the development and location of productive forces to the year 2000 have been worked out. They are to be the basis of scientific and technical policy in all sectors of our economy.

We have created a powerful production and scientific potential. New forms of integration of science with production are being disseminated. An example of them are developments in the field of automation of quality control attained through the efforts of 17 scientific-research institutes, VUZ's and enterprises, which have yielded two million rubles of economic gain.

Many enterprises and associations have worked out their own comprehensive programs for raising the technical level of production and product quality. For example, Shyaulya Television Plant and Kaunas Radio Plant are organizing close cooperation with plants supplying components. There are many of them--from 14 departments. Alitus Refrigerator Plant has planned such technical measures as would permit it to produce in the near future refrigerators on the level of the best world examples. And at the Vayras Shyaulay Bicycle and Motor Plant, production volume will be significantly increased through reequipment and improved technology.

So far possibilities of integrated systems of production quality control are being poorly used. At many enterprises they operate formally and do not justify the costs spent on their introduction. Today attitude toward them is more than strange. When these systems were being developed, they were under the strict control of party, soviet and economic organs. And then they were introduced, and everything seemingly quieted down. But today it is especially necessary to increase control so that such technical solutions go into the development of new items as would ensure a truly high product level.

Major possibilities exist in the labor sphere. Although losses of worktime in the course of a year have been reduced (in industry--16 percent per worker and in construction--5 percent), they are so far still great. Certification of workplaces can be of help here. It is being widely carried out at certain enterprises of machine building, the electrical equipment industry and the chemical industry. We are trying to closely combine this with introduction of new equipment, improvement of technology, brigade forms of labor organization and stimulation, upgrading of qualifications.... On the decision of the Central Committee of the Communist Party of Lithuania, a complex program of intensification of industry production for the 20th Five-Year Plan is being worked out based on certification of workplaces. We attach big hopes for these measures. They should help us achieve rational management.

Major possibilities are opened by the energetic use of such a powerful lever for mobilization of workers as socialist competition, dissemination and introduction of valuable initiatives and progressive experience. Today labor collectives of enterprises are assuming intensive commitments. Party organizations are trying to direct them primarily to improving qualitative plan indicators, and they are achieving better coordination in work with subcontractors. Goals are set concretely and practically: to work two days a year with saved raw and other materials and fuel, to additionally raise labor productivity and to improve production quality. Such is the answer to the appeal of the party to work on a shock basis, with full returns and to create a reliable basis for a confident start of the new five-year plan.

#### Lithuania--Plans and Modifications

Moscow EKONOMICHESKAYA GAZETA in Russian No 7, Feb 85 p 6

[Article by B. Zaykauskas, chairman of Gosplan Lithuanian SSR: "What Practice Showed"]

[Text] In the final year of the 11th Five-Year Plan, the economic experiment in Lithuania became more widespread: today 85 percent of the industrial

associations and enterprises of the republic are participating in it. Among collectives working under the conditions of the experiment, almost 37 percent of the total number of industrial-production personnel are so employed. Thus the experiment will exert a decisive influence this year on the results of operation of Lithuania's industry.

Every basis exists for optimistic forecasts: the work results of the republic's Ministry of Local Industry--one of the five ministries working under the conditions of the experiment since 1984--are on the whole positive. Thus since January 1984, the enterprises and associations of these ministries have been securing full fulfillment of product deliveries in accordances with contracts and orders (such a level of contractual fulfillment has been achieved for the first time). All production growth in the course of the year has been ensured through growth of labor productivity. Plan targets were fulfilled for reduction of production cost as well as for average reduction of expenditure of material resources. Production of items from local raw materials and wastes grew by 15 percent and production output of the highest category of quality increased by more than 24 percent.

The first results of the experiment and the practice of introduction of new methods and stimuli support the correctness of the chosen way. But practice also brings problems which require solution. We would like to dwell on some of them.

According to the conditions of the economic experiment, capital investment for reequipment is financed from the production-development fund, amortization deductions for capital repair and from centralized sources. In practice, the resources of the production-development fund cover the needs of reequipment by no more than 50 percent on the average (for example, for El'fa Association of the Ministry of Electrical Equipment Industry--44 percent, for enterprises and associations of the Ministry of Local Industry--31 percent). For this reason, it would seemingly be advisable to increase the actual production-development fund, channeling into it all amortization deductions, including deductions for renovation. In a word, to proceed from reequipment being carried out as a rule solely with noncentralized sources of financing.

Practice has also shown that in the creation of conditions of the experiment for 1984, questions of stimulation of scientific-technical progress and pay for the work of designers were not sufficiently clearly solved. A certain improvement in this sphere is observed in 1985 with expansion of the experiment. Thus heads of leading production associations of sectors of machine building included in the experiment have been permitted to use the system of pay of work of design and technological organizations being presently utilized at five Leningrad associations. In our view, it would be advantageous to employ these conditions while taking into account specific factors in the organization of the Lithuanian Ministry of Local Industry where all design and technological resources of the sector are united in one organization--the Planning and Design Technological Institute.

Contrasts are revealed in the transfer of experimental-design and planning units to the conditions of the experiment. Thus Sigma Production Association of the Ministry of Instrument Making, Automation Equipment and Control Systems includes planning and design and technological units. Under the conditions of the experiment, they enjoy the same rights and have the same responsibility as production units. But in transfer to the experiment of enterprises and associations of the Ministry of Machine Tool and Tool Building, Litstankoprojekt Planning Organization was not included in the general system because... it is independent. We think that this is unfair. Litstankoprojekt is working on the reequipment of machine-tool building enterprises and should also take part in the experiment.

As shown by experience, the experiment creates conditions for stimulating the work of collectives with a small number of industrial production personnel. But in our view, full disclosure of existing reserves and capabilities is hindered by restriction of the rights of enterprises in the matter of formation of the structure of industrial personnel.

We think it would be helpful to grant the right to labor collectives to independently determine with what number and structure of personnel to carry out the set tasks, specifying those economic conditions that do not permit the adoption of irrational decisions.

Under the conditions of the experiment, the manner of establishing certain norms calls for comment. Analysis shows that stable (this is an essential requirement) but differentiated norms are required while taking into account the specific character of each enterprise. For associations and enterprises of the Lithuanian Ministry of Local Industry, for example, the principle of setting up stable differentiated norms has been fully justified. Yet, let us say, a single standard of the wage fund both for associations of the Ministry of Electrical Equipment Industry and for enterprises included as part of these associations results in complications. Furthermore, the ministry failed to take into account the wishes of economists to differentiate norms at least within the confines of a single association and allows the existing procedure to stand for the present year.

Unfortunately, the principle of single standards is being introduced for sectors on the whole from above to below by the Ministry of Instrument Making, Automation Equipment and Control Systems and certain other ministries whose enterprises began to work under the conditions of the experiment in 1985.

The normative method of planning is a most important principle of the economic experiment, and it is very important that the establishment and utilization of norms are deeply and thoroughly substantiated so that these indicators take into account the specific characters of individual labor collectives.

And last. Under the new conditions, the contract is becoming the basis of establishment of the production program and its adherence an obligatory condition of economic operation. For this reason, it would appear that the material accountability both of subcontractors and of trade and transport

enterprises for the entire chain ought to be raised, be it for nonfulfillment of contractual obligations, repudiation of a concluded contract or for late delivery of products to a client.

The effective solution of questions arising in the course of the experiment will contribute to more effective and qualitative work under the conditions of the experiment.

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ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

ECONOMIST EXAMINES PRODUCTION INTENSIFICATION DRIVE

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[Article by A. Seleznev, doctor of economic sciences, professor: "Managing the Process of Production Intensification"]

[Text] The course toward overall intensification of production and the cardinal increase in labor productivity defined by the 24th-26th CPSU Congresses is becoming a reality in the socio-economic development of our country. This course will also be proposed in the 12th Five-Year Plan. "The new five-year plan," noted CPSU Central Committee Secretary General K. U. Chernenko at the February (1984) Plenum of the CPSU Central Committee, "must first of all become the basis for deep-seated qualitative changes in production; it must be the five-year plan marking the decisive break in the work of intensification of all sectors of our national economy." <sup>1</sup>

For the continued implementation of this strategic course, it is necessary to define the content of the concept of "intensive type of reproduction" and the work of shifting the economy over to the path of intensive development.

In defining the essence of this process, we must be guided by the important methodological directive of K. Marx regarding the fact that we may speak of reproduction "which is extensively expanded if only the field of production is expanded and intensively expanded if more effective means of production are used." <sup>2</sup> In other words, K. Marx believed the increase in effectiveness of the utilized production means to be the indicator of intensive development. In social production, extensive and intensive growth factors emerge as one. Their complex interrelation and interaction make it practically impossible to precisely measure the "weight" of one or the other direction of development in the overall result of social production. However, it is relatively easy to determine which factors are prevalent in economic development. If, for example, the number of people engaged in the national economy grows faster than the social product, the extensive factors are prevalent. On the other hand, intensive development presupposes a more rapid increase in the results and provision of the overwhelming portion of production growth due to increased labor productivity.

To bring into action the intensive factors of economic growth means to concentrate primary attention on the development of production forces. "Intensification, accelerated introduction of achievements in science and technology

into production, and implementation of major comprehensive programs," stressed K. U. Chernenko, "all this must ultimately raise our society's productive forces to a qualitatively new level." 3

Productive forces include not only material elements, but also the personal factor in production. Consequently, intensification is always associated with an increase in the level of production means and with increased level of training of the workers, i.e., with improvement in the application of the material as well as the personal factors in production.

Under the given natural conditions of the labor process, the criterion for depth of intensive development is the comparatively higher level of social labor productivity. In order to meet this requirement, the compensation for instruments of labor must take place on a new technical basis. Another criterion, which is derived from the first one, is the degree of reduction in expenditures for manufacturing a unit of production of the necessary quality or for increasing the quality of the product at a given expenditure level. The product quality and the cost of its production have always characterized the level of effectiveness of the technology and the depth of intensification of its development.

Intensification is associated with the expansion of production on the basis of application not only of new, but also of traditional technical means. For example, a sharp increase in labor productivity in sectors consuming raw materials presupposes an expansion in the output of these materials. If in this case the means of production used is of the level previously achieved, then the raw material sectors are developed extensively. Such a phenomenon, for example, was observed in the development of such complex sectors of our country's industry as the petroleum and petrochemical, lumbering and wood processing. The process of primarily intensive development of the processing subsectors was associated here in individual periods with the predominantly extensive development of the procurement subsectors.

On the other hand, the expansion of production at existing enterprises as a result of reconstruction and the introduction of technical innovations cannot be relegated to a purely extensive direction of development, since in most cases there is an increase in the effectiveness of means of production. In connection with this, the reconstruction of operating enterprises is quite justifiably considered to be one of the main directions in intensification. However, at the present time at production facilities the relative share of state capital investments directed toward technical retooling and reconstruction of existing enterprises is growing at a slow rate. By the start of 1983 it comprised 34.2 percent, with only around 48 percent of the funds allocated for reconstruction being invested in equipment, instruments, and stock inventory. It is necessary to increase the portion of expenditures for technical retooling and reconstruction of existing enterprises, since today and in the foreseeable future the main bulk of products are being and will continue to be produced by enterprises which were placed into operation in the 50's-70's.

This problem may also be resolved by means of using the production development fund and part of the amortization fund for these purposes.

In 1982, 7.2 billion rubles were directed toward the production development fund at industrial enterprises. This comprises approximately one-quarter of the amortization deductions allocated for renovation. At first glance such a course is irrational, since it makes it possible to only partially renew the production apparatus and leaves the overall technical level of production principally unchanged (from this standpoint, the centralization of funds and their application in the form of massed investments at the most important sections of specific sectors and in the national economy as a whole is expedient). However, at the same time it is necessary to leave a certain amount (in accordance with the standards) of funds at the disposal of the enterprises (associations) for maintaining a high technical level in decisive sectors.

Intensification of production is achieved by means of a more complete application of the renewed production potential.

In his time, K. Marx formulated a rather important position regarding the fact that the "means of labor...may be used more effectively by means of increasing the time of their application as well as by means of increasing the intensity of their application without additional expenditure of money for fixed capital."<sup>4</sup> From this position, it would seem, it must follow that the intensification of production is possible without additional expenditures. However, "compacting" the time of application of machines is equivalent to extensive growth of production (similar to the case where with more intensive labor the work day may be represented as a longer work day of normal intensity labor).

Since at the present time the shift application coefficient for equipment is relatively low (in 1983 it comprised 1.33 in industry), the concept of increasing it by means of improving production organization must be examined as a condition for intensification. In connection with this it is expedient to work out sectorial standards for equipment application by time. These standards should be considered in determining the production capacity of enterprises, at the same time setting the tasks for achieving the socially normal level of extensive load on the machine tool pool. Such an approach would make it possible to improve the application of the existing production potential and to direct the means of capital investments toward assimilation of achievements in scientific-technical progress.

The development of intensification requires a correct definition of the prospects in regard to the consumption and savings funds in the national income. From the standpoint of creating prerequisites for accelerating the rate of economic growth, it is important to maintain a high accumulation norm, which is evidenced by the pre-war experience in economic development of our country as well as by the experience of other countries.

Often the growth in the amortization fund and the changes in its application are presented as an argument in favor of reducing the portion of savings in the national income. Without rejecting this possibility, we must understand that by its essence the amortization fund is a fund for compensating the fixed capital (i.e., replacement of physically worn fixed capital with new facilities). The process of such replacement, which is implemented within the framework of plans for capital investments, is synonymous with savings by its economic

content only to the degree to which the new instruments of labor are cheaper and more productive. This is possible only with the condition of using the ever-increasing amount of the savings fund for technical retooling of the leading sectors on the basis of the latest scientific-technical achievements.

However, in order to replace the fixed capital with a technically improved variant, it is necessary to have this fixed capital in sufficient amount. Machine building still does not meet the needs of the national economy at the level of the highest achievements in science and technology. Under these conditions the savings fund may be used for retooling production on an outdated technical base, which has a negative effect on the rate of economic growth. Increasing the savings norm is expedient only to the degree to which conditions have been created for transition to the widespread application of qualitatively new engineering and technology. In individual periods, stabilization or even reduction of the savings norm may turn out to be more effective, with investment of the funds into the leading engineering and technology (or its growth with investment of funds into traditional or insignificantly changing engineering and technology).

The break in transition of the economy to the path of intensive development may occur under the condition of replacement of the old production apparatus in leading sectors of the national economy with a principally new one in a technical-technological sense, i.e., as a result of scientific-intensive accumulation requiring incomparably greater investments into production. This process may lead to a reduction in the relative share of the consumption fund in the national income, but will make it possible in the future to greatly increase its mass. Even today, the position of K. Marx retains its force. It states that the growth of consumption depends on the mass of the social product--this real wealth, while the latter depends on the productivity of social labor and on the greater or lesser provision of those conditions under which this labor is performed.<sup>5</sup> To ensure a high level of production means is to create favorable prerequisites for growth in the mass of the social product.

Additional investments into the development of production lead to improved results only under certain conditions. One such condition, in particular, is the productive character of these investments. In practice, situations often arise in which the immediately productive directionality of these investments is manifested only at the concluding stage, remaining as a potential for a long period of time, as for example in freezing assets in unfinished or halted construction. The lengthy character of construction of new facilities determines the possibility of their being obsolete by the time they are placed into operation. As a result of this, a nominal factor also becomes the expansion of the field of production: products manufactured at "new" enterprises but according to outdated technology are not in demand. The end results in such cases are far from that which must accompany the process of intensive development. Therefore the most important requirements for intensification of production are the unconditional intensification of the investment process; the investment of capital with maximal yield, i.e., primarily into active elements of production funds; overcoming the growth of unfinished production in construction, and accelerating the operational introduction of facilities.

There are huge reserves in our country for intensification of the investment process along the line of reducing and scope and relative share of unfinished construction. Computations show that if unfinished production in construction were to take the form of "under key" readiness, then under the normative coefficient of absolute effectiveness of capital investments (equal to 0.14), 12.1 billion rubles of real effect would be obtained annually. This is equivalent to a 2.3 billion ruble increase in the national income. In order to bring to life these (investment) factors in the growth of the national income, it is necessary to reduce in a planned manner the volume of unfinished construction. This is why it is expedient to review the outdated sectorial standards for unfinished production in construction, orienting them toward increased effectiveness of capital investments and accelerated recovery.

The importance of radical improvement in normative regulation of the effectiveness of capital investments is great in the solution of this problem. At the present time the standards for absolute effectiveness of capital investments for the planned period are set at the level of actually attained values, and sometimes even lower. Specifically, for the current five-year period the effectiveness standards have been set as follows: for industry--0.16; for agriculture--0.07; for transport and communications--0.05; for construction--0.22, and for the national economy as a whole--0.14.

In defining the values of the standards, objective conditions under which the investment process takes place are taken into consideration. However, the standards, as an instrument for regulating the effectiveness of the investment process, cannot be "adapted" to the conditions of reproduction. They must be a factor of their change. If the standards merely reflect the attained level of effectiveness and fix the relationship of volume of capital investments and unfinished construction as it has been formed, then they cannot help but be oriented toward retention of the attained relationships, which is hardly correct from the standpoint of managing the process of intensive development.

The standard coefficients for effectiveness of additional capital investments must be dynamic. For sectors in which the process of yield on investments is not associated with the action of natural factors, in each subsequent five-year plan they must be higher than in the preceding one. The logic here is that only the increased effectiveness of additional capital investments guarantees an acceleration of the rate of transition of the economy to a primarily intensive path of development.

The growth in effectiveness of additional investments is one of the basic directions for positive change in the relation of growth rate for capital-labor ratio and labor productivity (this relation is an economic expression of the depth of intensive development). In 1971-1982 it declined significantly in industry. With a 2.19-time increase in the capital-labor ratio, the labor productivity increased by a factor of 1.64. This is explained by the slow replacement of physically worn out equipment and maintenance of its operability by means of expensive capital repair, by a growth in the relative share of funds for environmental protection within the make-up of the production funds, by an increase in the cost of facilities after their reconstruction, etc.

The shortcomings in planning the operational introduction of new capacities are also apparent (the creation of work sites without proper consideration for possibilities of attracting labor resources, incomplete utilization of production capacities, particularly for reasons of inconsistent material-technical supply, etc.).

At the same time, the relationship between growth rate of capital-labor ratio and labor productivity which has been formed is not an inevitable consequence of intensification. It is evidence of the insufficiently high technical level of production means. Therefore it is necessary to change the attitude toward evaluating investment decisions at the stage of selecting variants, so that the selection of the best decisions will become the norm for economic management life in the sectors determining scientific-technical progress, and primarily machine building. "Under the conditions of the scientific-technical revolution, machine building is becoming as never before a strong accelerating factor in economic growth",<sup>6</sup> stressed Chairman of the USSR Council of Ministers N. A. Tikhonov.

The achievements which have been attained in domestic machine building must not blind us to the fact that its production is still not always able to compete in the world market. For a number of reasons, and among these due also to an insufficiently strict selection of investment decisions, the list of types of technology which by all its parameters surpasses the best world analogs is still short. In connection with this, we must tighten the requirements for effectiveness of investments into the development of machine building and implement an organizational re-structuring in the sectors which produce means of production. Evidently, it would be expedient to place the principle of organizational unity of all segments of the "research-production" cycle (of the NPO [scientific-production association] type) at the basis of the organizational structures.

The application of scientific efforts directly within the large production-scientific industrial associations seems acceptable to us. It is expedient to allocate capital investments on a separate line to associations for the development of test-experimental and laboratory units, and to assign to these units all the functions of scientific-technical preparation for production, including complete scientific-informational provision in a form acceptable for treatment and generation by practicing specialists. It is also necessary for the tasks on science and technology and on raising the technical level (quality) of production to be closely tied in with the plans for capital investments and development of the test-experimental base. Such an approach would increase the effectiveness of investments in the development of science, whose returns have been declining in recent years.

The expenditures on science in the cost of the national income have undergone a relative increase: from 3.78 percent as an annual average in the 8th Five-Year Plan to 4.68 in the 9th and 4.79 percent in the 10th, while the yield (computed by national income used for savings and consumption) is declining (in 1973 prices) from 26.45 rubles in the 8th Five-Year Plan to 21.36 in the 9th and 20.87 rubles in the 10th. In 1982 it comprised 18.98 rubles. These data testify to the reserves for increasing the economic yield on investments

in the development of science. At the same time, the practice of writing off expenditures for discontinued research topics is widespread, as is the growth of unfinished production in the sectorial segment of science. This is to a considerable degree explained by the extensive development of science itself and by the lack of development of its forms of communication with production, as well as by lagging behind of the test-experimental base. At the same time, the capacities are overloaded by the fulfillment of plan assignments for basic production, which hinders the production of achievements in science and leading technology.

At the present time, necessary measures are being taken for accelerating the introduction of scientific achievements into production by means of the fastest possible development of the test-experimental bases and industries.

At the same time, the need for increasing the unified fund for development of science and technology is also increasing. The fund assets are currently insufficient for compensating the increased expenditures on assimilation of new technology, which inhibits technological progress. Since there is a certain indeterminacy in budget planning which is associated with the fact that the scope of application of mark-ups for quality is not known beforehand, it would be necessary to leave the enterprises an additional 15 percent of the profits obtained as a result of such mark-ups and directed to the budget. (This is in addition to 15 percent of the sum of mark-ups for quality which is presently given to them for deductions in the YeFRNT [not further expanded]. This measure is determined by the fact that the scope of application of high (up to 30 percent) mark-ups to prices on highest quality production is rather small, since there is practically no widespread circulation of newly developed technology which does not yield by its basic parameters to the best world analogs.

In order to shift the Soviet economy over to the path of intensive development, it is also necessary to significantly improve the application of the personnel potential.

As CPSU Central Committee Secretary General K. U. Chernenko noted at the April (1984) Plenum of the CPSU Central Committee, higher education "significantly influences the rate of our economic, social and spiritual progress, as well as the defense capability of our country. It is here that the human prerequisites are created for that which is our primary concern--the organic combination of the socialist system of economic management with the latest achievements of the scientific-technical revolution." <sup>7</sup>

Technical progress is possible only with a growth in the relative share of specialists within the make-up of the work force. The Soviet Union has achieved leading frontiers in the world in this respect. Thus, from 1960 through 1982 the number of specialists engaged in the national economy increased from 8.8 to 31 million persons (i.e., a 3.5-time increase), while the number of people with a higher education increased from 3.5 to 13 million persons (a 3.7-time increase). At the same time, the numbers and levels of training of scientific workers grew at a rapid rate: from 1950 through 1982 the overall number of scientific workers increased by a factor of 8.8, the number of candidates in science increased by a factor of 9.3, while the number of doctors of science

underwent a 4.8-time increase, and comprises 423,000 and 39,700 persons, respectively.

The capacity of the creative cadres to solve new problems in science and technology is associated to a considerable degree with the deep fundamental preparation of specialists and their capacity for always assimilating the latest knowledge. Therefore, the cadres must have a well-founded preparation in the sphere of natural sciences within higher education. However, in recent years, the country's leading VUZes have reduced the time devoted to the study of all chapters of physics to less than 2/3 of the previous amount. Specifically, in the Moscow Institute of Electronic Technology this time has been cut from 789 hours in 1967 to 458 hours in 1983.

There is a more acutely felt need for further increasing the level of training of workers who directly realize scientific-technical ideas, embodying them in new means of production.

Within the process of reform of the general education and vocational school, the duration of education of young workers must be increased. The improvement in professional training will be combined with an in-depth study of the general education sciences, particularly the natural sciences. When taken together with the improvement in the study of ideological disciplines and moral upbringing, this will serve as a guarantee of effective work by the young workers in the sectors which determine scientific-technical progress in the national economy.

The graduates of vocational-technical schools are still inadequately prepared for work in the sphere of machine tool building, instrument building, and robot building. Therefore, provisions are being made to ensure a firm mastery by the students of the basics of the natural sciences, as well as technical, agronomic, economic and other specialized subjects which are primarily associated with the development of new engineering and technology.

At the present time the average period of general-education training of young workers in our country comprises around 10 years. The reform of the general education school provides for the secondary general education school to be expanded to a period of 11 years, while the secondary professional education obtained on the basis of this general education at vocational-technical schools preparing highly trained workers will last one year. The overall duration of general education and vocational training of young workers will comprise 12 years. Graduates of the 9th grade will study for 3 years in secondary Vocational-technical schools, i.e., also making the total education time 12 years.

A more intensive application of the work force is possible on the basis of improved worker training. It is important to distinguish the concept of "intensive application of the work force" from the concept of "intensification of labor." The latter reflects an increase in the degree of labor intensity as compared with the social standard. For socialism, intensification of labor is unacceptable as a process for continuous increase in its intensity. However, the intensive application of a combined work force is not only possible but also necessary by means of increasing the intensity of labor in those areas

where it is below the socially normal level. (This is done on the basis of changing the labor, altering labor activity, comprehensive development of creative capacities by means of multi-faceted professional preparation and professional training during education and during the labor process.)

The intensive application of the work force is thus primarily associated with its expanded reproduction. However, the role of stimuli is also great in increasing the productivity of living labor. In connection with, the removal of limitations on stimulation of all categories of workers within the framework of the economic experiment being performed in the country takes on exceptionally great importance. Since according to the conditions of the experiment the measure of incentive is limited only by the standard in growth of the wages for each percentage point of growth in labor productivity, its effect is strengthened on the growth of labor productivity, and consequently on all the components of this process: the introduction of achievements in scientific-technical progress into production, the better organization of labor, the combination of professions, increased specialization, etc. This creates favorable conditions for a more complete accounting of the time factor in stimulation.

As we know, the experience of Shchekino did not become widely promulgated also because there was no strict time limitation on the period in which mark-ups to wages were used for combining professions and expanding the zones of equipment servicing. Now the application of mark-ups depends on the times for which all improvements in the labor process are in force, as well as on the economic effect obtained due to the growth in labor productivity and the improved quality of its end results.

For purposes of developing the experiment, in our mind it would seem expedient to use progressively descending scales for allocating assets for increasing the wage fund for every percentage point of growth in labor productivity.

The development of plan indicators and evaluation of its fulfillment by the association (enterprise) collectives, the association between results of labor and compensation, as well as the increased efficiency of instruments for regulating production effectiveness all have great significance for realization of the factors of intensive development. The depth of intensification of production is manifested in increasing the labor productivity and the level of expenditures for production. This is why growth in labor productivity and cost reduction become the most important planning, evaluative and capital-forming indicators. Since the above-mentioned indicators may be improved only under the condition of scientific-technical progress, then the role of fulfilling tasks on the development of new engineering and improvement of technology increases in planning, evaluation and stimulation. Finally, due to the fact that intensification of production is unthinkable without a normal rhythm of enterprise operation, a clear interaction between the producer and the consumer, as well as a high technological and executive discipline, one of the basic indicators is that of fulfillment of the delivery plan in accordance with contracts and orders. Only 100 percent fulfillment of this indicator must guarantee an increase in the material incentive fund.

Comrade K. U. Chernenko noted that material incentive sometimes lacks "the proper fairness, and sometimes, if you will, also generosity. This question must be substantially investigated, and also without delay." <sup>8</sup>

In order to accelerate intensification of production, it is necessary to improve the system of labor stimulation and to change the relations which have been formulated between the average wage of engineering-technical workers and workers in leading sectors of the national economy. In dynamics this relation is as follows: in industry--2.1:1 (1940); 1.5:1 (1960); 1.36:1 (1970); 1.15:1 (1980); 1.13:1 (1981); 1.12:1 (1982); in construction, respectively: 2.42:1; 1.56:1; 1.34:1; 1.02:1; 1.003:1; 0.989:1; and in agriculture: 2.34:1 (1940); 1.91:1 (1965); 1.66:1 (1970); 1.23:1 (1980); 1.21:1 (1981); 1.22:1 (1982). Since intensification of production is production on the basis of a more effective engineering and technology, and the latter is constructively developed primarily by specialists and engineering personnel, it is important to gradually improve the given ratios by means of increasing the wages of specialists who are striving toward specific important results in the sphere of developing new engineering and technology.

A promising direction for change in the wages of engineering-technical workers is the creation of conditions for increasing these wages in relation to growth in the labor input. This is what comprises the essence of the experiment on improving the wages of workers in design and technological services which is being conducted in six Leningrad associations (the production associations Izhorskiy Plant imeni A. A. Zhdanov, the Leningrad Metallic Plant imeni 22nd CPSU Congress, the Nevskiy Plant imeni V. I. Lenin, the Elektrosila imeni S. M. Kirov, the Leningrad Electromechanical Plant, and the NPO [scientific-production association] Central Scientific-Research Institute on Engine Fuel Apparatus).

The material stimulation of specialists for actual achievements in the development of engineering and technology is augmented at these associations by the incentives given to workers of design and technological services at the expense of savings on the wage fund as compared with the level approved for each structural subsection. The incentive is provided in the form of setting increased wage rates and mark-ups to wages of designers and technologists for ahead-of-schedule fulfillment of particularly complex and priority assignments, for high level of qualification and professional skill for the period prior to the next certification, as well as additional payments to workers for performing a large work volume. Already at the very beginning of the experiment, and especially in the period of performing certification, the number of designers and technologists was reduced by 632 persons. The maximal amount of mark-ups to wages reached 33.9 percent.

A major step in improving the stimulation of creative labor is the introduction of the statute effective as of 1984 regarding one-time bonus payment to specialists for the development and output of products of a higher technical level and quality. This payment is in the amount of up to three times the wage rate (over the premium provided by effective legislation). All this answers the indication by V. I. Lenin regarding the need for higher compensation of specialists.

Analogous experiments should evidently be performed also in the sphere of science and scientific services, where the differences in wages reflect the differences in the positions filled and are not directly tied with the dynamics

of labor input. The change in the relation of the average wage of the scientific worker as compared with the level of the average wage of workers and employees in the national economy is becoming apparent. While in 1940 this relation comprised 1.42:1, in 1965, 1981 and 1982 respectively it comprised 1.25:1; 1.06:1, and 1.076:1.

The sense of conducting experiments in the sphere of worker incentives for whom organization of wages is characterized by fixed salaries consists of strengthening the ties between wages and volume and quality of fulfillment of the corresponding functions.

From these standpoints, it would be expedient to study the possibilities of increasing the level and expanding the differentiation of employee wages. As we know, most of these employees are management personnel for whom the requirements today are higher than ever before. The quality of fulfillment of the management functions (including the quality of managerial information, plan substantiation, timely formulation of various documentation, rhythm of supply and delivery, timely and effective analysis, control, etc.) depends on the careful work of these employees. At the same time, the prestige of the employee's labor is increasing at a slow rate. Indirect evidence of this fact is the change in the relation of wages of employees to workers. This relation was in industry: 1.11:1 (1940); 0.84:1 (1965); 0.82:1 (1975); 0.78:1 (1981); 0.77:1 (1982); in construction, respectively--1.47:1; 0.94:1; 0.81:1; 0.7:1; 0.69:1; in agriculture (sovkhozes)--1.5:1; 1.13:1; 0.91:1; 0.81:1; 0.81:1. We believe that it would also be expedient to perform an economic experiment on the organization of wages for this category of workers. In the course of this experiment it would be necessary to consider the exceptionally important role of those categories of workers who ensure the process of production intensification not only in a technical aspect, but also in the organizational and economic.

An important direction in improving the wages of specialists is to establish a dependence between these wages and the results of work by brigade collectives which are within the sphere of engineering provision of these specialists. Thus, by resolution of the CPSU Central Committee entitled "On the Further Development and Increased Effectiveness of the Brigade Form of Labor Organization and Stimulation in Industry" and by resolution of the USSR Council of Ministers and the AUCCTU entitled "On Measures for Further Development and Increased Effectiveness of the Brigade Form of Labor Organization and Stimulation in Industry", the premium payments to engineering-technical workers at shops and production sectors are based on the results of the work performed by the brigades. Bonus payments in amounts of up to 50 percent of the salary (due to economy of the wage fund obtained as a result of introduction of the brigade form of labor organization) are set for foremen of production sectors, and engineers for organization and standardization of labor, for high level of training, and for development and implementation of measures for increasing labor productivity.

The task in the sphere of managing the process of intensifying production in the plan of utilizing the motivating forces of its development consists of

defining the optimal scientifically substantiated connection between the quantity and quality of labor and its remuneration, as well as to consistently strive toward making the intensification of production the vital concern of every worker.

#### FOOTNOTES

1. "Materialy vneocherednogo Plenuma Tsentral'nogo Komiteta KPSS, 13 fevralya 1984 g," [Materials of the Special Plenum of the CPSU Central Committee, 13 February 1984], Moscow, Politizdat, 1984, p 16.
2. K. Marx and F. Engels, "Sochineniya," [Works], Volume 24, p 193.
3. "Materialy vneocherednogo Plenuma Tsentral'nogo Komiteta KPSS, 13 fevralya 1984 g", p 14.
4. K. Marx and F. Engels, "Sochineniya", Volume 50, p 98.
5. Cf: K. Marx and F. Engels, "Sochineniya", Volume 25, Part II, p 386.
6. PRAVDA, 1984, 2 March.
7. "Materialy Plenuma Tsentral'nogo Komiteta KPSS 10 aprelya 1984 g," [Materials of the CPSU Central Committee Plenum, 10 April 1984], Moscow, Politizdat, 1984, p 19.
8. K. U. Chernenko. "Narod i partiya yediny. Izbrannyye rechi i stat'yi," [The People and the Party Are One. Selected Speeches and Articles], Moscow, Politizdat, 1984, p 14.

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## PLANNING AND PLAN IMPLEMENTATION

### ECONOMIST DISCUSSES PLANNING, PROPORTIONALITY CONCEPTS

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[Article by Professor A. Petrov, doctor of economic sciences: "Plan Conformity and Proportionality of Socialist Reproduction"]

[Text] Plan conformity and proportionality are two most important characteristics of socialist reproduction. These categories were very important in all stages of building socialism, but acquired a special role in the stage of developed socialism, where they give full scope to the more complete and all-round manifestation of the advantages inherent in the socialist method of production and the possibilities for their realization. Under these conditions, new demands upon the mechanism for use of plan conformity and proportionality were formed and a serious need arose for its improvement.

Despite the tremendous importance of this problem, scientific work in the area of plan conformity and proportionality has not been given needed attention of late. This is especially noticeable against the background of expanded research on questions of improving the managerial mechanism, which is characterized by some scientists as a category which is "wrapped up in" plan conformity and proportionality, as well as planning itself -- its implementing mechanism. Among all the ideas on improving the managerial mechanism, the most important problems include strengthening the managerial independence of associations and enterprises in the state sector; comprehensive development of cost accounting; and improving, through profits, the economic incentives for production and for workers in production, including managers.

As the result, the managerial mechanism, which has a single economic essence and function, is seemingly split according to the levels of organization of social production, as well as the methods of realization: planning at the level of the overall national economy, and predominantly monetary and tangible incentives at the economic branch and enterprise level. This is one of the main reasons that the advantages inherent in the socialist method of production are not fully realized.

The literature very often claims that plan conformity and proportionality are identical categories. I believe that this is untrue. Plan conformity and proportionality in the development of social production are independent,

although organically linked categories. If plan conformity and proportionality were identical, this would assume that the commodity-money mechanism was the single possible means of their realization.

The logic here is as follows: Since proportionality has a place under capitalism as well and is realized through commodity-money relationships and the market mechanism, then plan conformity, being identical to proportionality, can also be realized with the aid of the same instrument. Consequently, commodity-money relationships as instruments for realizing these categories are transferred wittingly or unwittingly to the soil of mature socialism.

It is possible that views concerning the independence of the categories of plan conformity and proportionality will meet serious and numerous objections. In this event it is usually mandatory to make reference to V. I. Lenin. Therefore it is appropriate to refer directly to Lenin as a source. It is known that after Lenin's work, "The Development of Capitalism in Russia" was published, the Legal Marxist P. N. Skvortsov published a review in which he accused Lenin of "digressing from the essential features" of capitalism and "turning it into planned production," since supposedly "proportionality in the development of individual plants undoubtedly means plan conformity of production." Answering this sort of "critical" remark, Lenin uttered the frequently cited statement: "Constant, consciously maintained proportionality truly WOULD MEAN (author's stress) plan conformity, but not the kind of proportionality which 'is established merely as an average size out of a number of constant fluctuations.'"<sup>1</sup> Consequently, it was P. N. Skvortsov and not V. I. Lenin who considered plan conformity and proportionality identical. Lenin opposed Skvortsov and stressed the two forms of proportionality and two contrasting methods of their achievement: constantly and consciously maintained proportionality and that established merely as an average of a number of constant fluctuations; i.e., proportionality which is spontaneous and regulated by the market mechanism.

It is generally recognized by economic science that plan conformity and, consequently, proportionality as well, are categories of production and thus also of reproduction. Their essence and the forms in which they are manifested can be revealed only in direct connection with the content and forms of socialism reproduction, which take shape from sequentially alternating stages: direct production of material goods, their distribution, exchange and consumption. Plan conformity and proportionality, which express the fundamental and most important features of each of these stages, have differing contents and forms in the process of their movement.

In the production stage, plan conformity realizes primarily such a fundamental feature as the purposefulness of functioning and development, which is determined by the primary economic law of socialism. In economic practice, this is manifested as a number of objectives which are advanced sequentially and

accomplished in stages. The number of objectives formed and accomplished in this way determines the society's shift from its present to its future state. The main economic law of socialism also contains instructions on the means of achieving its objective. In practice this is expressed in an aggregate of

resources needed to achieve a system of objectives; i.e., to satisfy the constantly growing requirements of society and the all-round development of the individual. The quantity of resources and their structure are formed not spontaneously or as a result of market relations, but are planned in accordance with the system of objectives facing the society. The movement of production from one objective to another, and its stage-by-stage development in accordance with a system of objectives based on resources which are formed purposefully, is one of the most important forms in which the plan conformity of socialist reproduction is manifested.

The plan conformity of the stage of production, which reflects a purposeful process of its functioning and development, is itself manifested in optimal amounts of production, growth rates and product structures, and in purposeful assimilation of the achievements of scientific and technological progress, advisable forms and methods of effective use of resource potential and directions and levels of production concentration, specialization and cooperation.

The main features of proportionality are also determined in the production stage. The goals of developing production and the methods of achieving them, which are represented by way of the basic economic law of socialism, have a quantitative definition; i.e. a measure. The measure of goals and the resources necessary to achieve them have the required quantitative correlation; i.e., form a definite proportion. This is not merely an important, but is an extremely necessary condition for the normal functioning and development of society. Violating it unavoidably engenders lack of coordination between the measure of goals and that of resources; i.e., a deficit in the latter, and on that basis -- disproportionality. Consequently, under socialism goals, resources and their measure and structure do not take shape automatically, spontaneously, but are formed according to plan. The claim of some scientists is seemingly paradoxical that in developed socialism the functioning of society in accordance with the goals set before it is possible under the automatic (according to the principle of self-regulation) formation of resources for their achievement. However, it must be noted that any separation of goals from resources, or violation of the proportions between measures, is a serious reason for the appearance of disproportionality in the overall development of society.

The correlation between the measure of goals and that of resources -- a most important form of proportionality -- is accomplished through proportion specifics: Economic -- between the compensation fund and national income in the aggregate social product; between accumulation and consumption in national income; between the first and second subdivisions of social production; between industrial production groups A and B; and in inter-branch, intra-branch and territorial proportions, etc. In this form, proportionality is an essential characteristic of socialist production which reflects its qualitative state, in which all the structural components of production, as well as factors of reproduction, are correlated quantitatively; i.e., have an amount sufficient for their mutual operation, harmonious functioning and the development of production as a single whole, within the framework of the national economic system.

In the second stage of the reproduction cycle, plan conformity expresses such an objectively existing feature of socialist reproduction as the purposeful distribution of the material benefits of production (in accordance with the goals facing society), while proportionality expresses a measure of division of the aggregate social product and national income according to their function and channels of reproduction, and is manifested as general economic proportions.

At the stage of exchanging the results of activity, plan conformity characterizes the process of the conscious realization of the economic relationships between production cells of the national economic system, formed on the basis of the movement of streams of materials, and manifested in the planned movement of products from suppliers to consumers. Proportionality at this stage reflects the measure of economic (production) relationships between production cells directly, between overall product production and individual intermediate materials supplying organizations, between the volume of union republic production and inter-republic deliveries and between the production of products at production enterprises and the needs of consumption enterprises. At the final stage of the reproduction cycle, plan conformity characterizes the special features of the processes of product consumption, the formation of the population's monetary incomes and expenditures, its consumption demands, retail commodity turnover, etc. As for proportionality, it reflects the measure and quantitative correlation between the aggregate of consumption funds, consumption and accumulation funds, etc.

Thus, plan conformity is a trait inherent to socialist reproduction as a whole, and to each of its stages individually. It designates such a qualitative feature of socialist reproduction as the purposeful nature of its functioning and development, in accordance with the consistently advancing goals of society and their stage-by-stage achievement. It is the universal form of functioning and movement of socialist production, which defines the nature of a society's activity and finds a strictly planned form in all of its aspects.

Proportionality is also a characteristic of socialist reproduction, which expresses the measure of a given reproductive component and the correlation between these components in the process of advancing socialist reproduction and finding the general form of this movement. Plan conformity and proportionality -- independent categories of socialist reproduction -- are manifested only through their organic unity. The planned functioning and development of socialist reproduction can occur only when all of its components have a measure sufficient for interaction with the other reproductive components; i.e., if they are proportional. Therefore, the practical realization of plan conformity in the development of production is possible only under conditions of proportionality of its parts. In this aspect, proportionality serves as a necessary condition for the realization of plan conformity. This is the first very important link between the two categories being examined. The essence of the other is that proportionality can be effectively realized only on the basis of plan conformity. It is well known that proportionality is also relevant under capitalist conditions. But there it is a particular case in the movement of production, since anarchy is inherent in production and, therefore, the forms of its manifestation also are

spontaneous in nature. Under socialist conditions proportionality is a constant phenomenon. It became so because it is established and maintained consciously. Setting specific development goals, society quantifies these goals and the amount of resources necessary and sufficient to fulfill them; i.e., determines in advance and in a well-planned manner the entire circle of proportions.

Plan conformity and proportionality represent the general form of movement of socialist reproduction, encompassing all of its stages and components. It is necessary to take this into account in the practical activity of further improving the management of social production.

For a number of objective reasons, the real base for strengthening plan conformity and proportionality is substantially expanded with the building of developed socialism.

First, our society is now functioning and developing on the basis and foundation inherent only to it, which was laid in the course of the previous stages of building socialism. As a consequence of this, the foundation and tendencies of the processes of socialist reproduction became sufficiently stable and settled, and new opportunities opened up to reveal strategic global objectives and quantify them; fix the time of a possible event; formulate for the long term future concepts of scientific-technical and social-economic development of society and organize society in the process of achieving objectives.

Second, our country's economy took on the form of an economic system within the framework of which its structural components and the varied relationships among them were sufficiently clearly divided. This increased the opportunities for strengthening planned, purposeful influence on them, setting more realistic goals and tasks and determining the optimal measure for quantitatively and qualitatively evaluating the functioning of the economy.

Third, developed socialism is distinguished by a high level of socialization of production and its transformation into directly social production; i.e., the socialist structure becomes the single and completely dominant form in the society. The socialist state, which expresses the interests of society, owns all the main means and results of production and distributes them in a planned manner. The economic base of the state's subjective activity has expanded on the basis of objectively achieved transformations and, consequently, the conformity to plan and proportionality of socialist reproduction are also more completely realized.

But the expansion of the objective base of plan conformity and proportionality make it necessary to improve qualitatively the instruments and their substantiation and implementation.

In order to ensure complete realization of plan conformity and proportionality in accordance with the requirements of developed socialism, it is necessary to fulfill three most important conditions:

-- to seek out and introduce into planning practice the most modern forms and methods of implementing the principle of democratic centralism in the area of the building and functioning of the organizational system of planning from top to bottom and the structure of the plan, and in the system of its indices. The functioning of all production as a single whole, the parts of which are sufficiently proportional, under conditions of organizational-technological independence of primary production elements and development of mass initiative on the part of the workers during the course of plan implementation, must become a main criteria here;

-- to justify and introduce into practice more modern methods and mechanisms of plan realization, adequate to the developed socialist economy, for achieving results which correspond to the interests of society;

-- within the framework of the economic system, to seek out new forms of organizing social production (for example, production complexes and within them, production associations).

Planning is a specific type of labor activity for working out the scientific bases of organizing the workers' activity and the purposeful functioning and development of society as a whole and each of its structural parts. Unified in its foundation, planning fulfills two functions: scientific-organizational and organizational-practical. The first is the basis for the long-term future development of society; the formation of long-range strategic objectives; the determination of the concepts for development of the society and the selection of effective ways and methods of achieving goals. A great deal has been done in recent decades in this aspect of planning practice. Most importantly, the transition to long-term planning of social development for 10-20 years has been implemented. Appropriate planning instruments have been created and introduced, including methods of scientific forecasting, a system of scientific prognoses, program and goal-oriented planning and a system of programs. Especially notable in the structure of the latter are a comprehensive program for scientific and technological progress, encompassing 20 years into the future; the main directions of the country's economic and social development for 10 years, and others. An important achievement in this avenue of planning is a real opportunity to make it continuous and to see future prospects going out 15-20 years.

The organizational-practical aspect of planning has a practical thrust and is divided functionally into a number of more specific directions.

The first of these is substantiation of:

-- the tasks of the five-year planning period and the development of society in the five-year plan (in the form of such generalized indices as the amount of aggregate social product; national income; accumulation and consumption funds and rates of economic growth);

-- targets of ministries, departments, union republics, associations and enterprises in the form of a system of indices;

-- proportions -- overall national economic, inter-branch, branch and territorial, etc.

This planning thrust is traditional and involves using a sufficiently worked out system of balanced and normative methods: a system of balances which includes balances of the overall economy, aggregate social product, national income, inter-branch balances, etc. Traditional methods are supplemented by those of mathematical modeling. In the system they make it possible to optimize quantitative plan indexes and the sum total of all proportions; however, here too there are unresolved problems.

Plan indices most often are based on value, which gives rise to a number of contradictions. The plan index is a measure of the target, result or effect. This measure is a combination of quantity and quality. The plan index, which is based on value, orients production and the services sphere toward the quantitative aspect of result and effect, and the qualitative aspect becomes secondary. The measures of the index, incentives for production and labor, results of production and services, and labor effectiveness all are based on value. This method of expressing the system of planning indexes contains a real possibility for the appearance of disproportionalities in the economy. In order to understand the reason for this phenomenon, one should look at the mechanism for value formation. Value is a category of commodity production which is manifested in the process of the functioning of the commodity-money mechanism. The logic of this mechanism is as follows: labor, accomplished in its concrete form -- labor taken in its abstract form -- its quantity (value) -- its exchange value (the exchange in the market of a specific product according to its value) -- price (the form of monetary expression of cost).

Consequently, in classical commodity production, the start point for the commodity-money mechanism is labor and its quantity, expressed in value. The end point -- cost -- is the monetary expression of value. Under our conditions, the logic of the commodity-money mechanism does not correspond to its natural character. It is built on an artificial basis, which has a negative effect on the effectiveness of social production. One cannot help but see that the start point for the commodity-money mechanism used in the presently existing economic system is cost and not labor; i.e., that form which concludes the process of operation of the classical trade and monetary mechanism. As is known, price under our conditions is established depending on economic, social and other requirements and frequently does not have an economic; i.e., a labor basis. Therefore, proportions expressed in monetary form and put in the plans frequently do not agree with the material proportions expressed in their natural-material form. This leads to lack of agreement between plan targets expressed in monetary value and physical forms. A serious contradiction arises between the two instruments for realizing plan conformity and proportionality -- between planning and the commodity-money mechanism. Of course this did not arise today, but it has now become obvious. It is no accident that for a long time value-based indices have not satisfied planning practice, and that a search is underway for the more suitable of the following for defining the end result: gross, commodity, realized, net and normative net production, etc. It seems to me that no matter what indices of value one takes they will still not become instruments of the planning practice mechanism which will make it possible to manage economic processes and relations.

The founders of Marxism were confident as they outlined the contours of future society that at the stage of socialism planning would be able to ensure the purposeful functioning and development of society, without resorting to value, although they did not use the word "planning" itself in its present understanding.

Marx, for example, believed that "in a society based on collectivism and the common ownership of the means of production, producers do not exchange their products; so little labor is expended on the production of products, manifested here as the value of these products, as some substantive trait inherent to them, because today, in contrast to capitalist society, individual labor already exists, not in a roundabout way, but directly as an integral part of aggregate labor."<sup>2</sup> In this situation the quantity and quality of labor and working time, as determined in the plan, can comprise the basis of all measurements. Karl Marx noted that "labor as the creator of use values, as valuable labor, is a condition of human existence and an eternal natural necessity, not dependent on any social forms,"<sup>3</sup> and that labor can be a measure of tasks and a result of production. Engels, as if clarifying this thought of Marx, wrote: "In order to determine under these conditions the amount of social labor contained in a product, there is no need to resort to the indirect path (i.e., to expression through value -- author); everyday experience indicates directly what quantity of this labor is required on the average. Society can simply count how many hours of labor are contained in a steam engine, a hectoliter of wheat from the last harvest or in a hundred meters of cloth of a particular quality. And since the quantities of labor contained in products in a given case are known to people directly and absolutely, then it also cannot come into the head of society in the future to express them by means of merely a relative, unsteady and inadequate measure, although earlier it was unavoidable due to lack of a better means; i.e., to express them in a third product and not in TIME, which is their natural, adequate and absolute measure. ..Consequently, under the conditions indicated above, society also will not come to ascribe any values to products."<sup>4</sup>

Thus, it is theoretically considered possible that under socialism planning practice can take place without indices of value as the basis for assessing the activity of producers' collectives, since they make it more difficult to improve effectiveness and make less optimal the measure of the plan targets and indices and the real expression of the results and effectiveness of production activity and the services sphere. But the question arises: How, for example, can the volume of aggregate social product be substantiated if it is the aggregate value of material wealth created by social production, or proportions be substantiated, if at present they can be expressed only in the form of value, etc? It goes without saying that without categories which express some plan measure, planning practice is not possible. We think that the only real instrument suitable for expressing the measure of such economic categories as aggregate social product, national income, consumption fund, accumulation fund, wage fund, general economic proportions and others is money; however, functioning in a fundamentally new way. Since the future objectively will lead to the renunciation of value, to the extent that this situation is achieved, money already will not be able to fulfill all functions related to the existence of value. Lenin instructed that money, under the Soviet system, is a clump of social wealth and a clump of social labor<sup>5</sup>

Therefore, money must fulfill the function of a measure of labor -- individual, aggregate, necessary and surplus. Just the same, in this form it will not be able to be an instrument of influence on production or become an accounting category (prices, tariffs, etc., must fulfill this role).

There is reason to believe that replacing value categories such as categories of commodity production and the market mechanism with monetary categories, used in the capacity of accounting categories, at the basis of which must lie norms expressing the quantity and quality of work expressed in normative hours, will make it possible to solve the contradictions between value and natural-physical indices which have arisen in planning practice.

The second function of planning, the organization of plan fulfillment, is greatly in need of qualitative improvement, since a number of contradictions exist there. The main contradiction is that the targets for production of a product, the conditions under which it must be produced and their measure, and the result and measure of effect have the form of a plan, while the mechanism of their realization and assessments of the activity are represented by commodity-money instruments. As a result, the direct producers of material wealth form extensive interests of a monetary nature, which are limited merely to the interests of the production collective. The interests of society frequently take a back seat. For example, a collective is interested in fulfilling the production plan in terms of value and not in its natural expression, since value contains the source of profits, in which the collective is more interested than in the production of the direct product, and also because it is substantially easier to deal with the quantitative aspect of the plan than the material and physical; i.e., fulfilling the plan in terms of the product list. The production collective is also interested in fulfilling targets of saving material resources, primarily in their monetary expression, since sources of incentives depend on this. The collective also becomes most interested in such things as obtaining the greatest profit, without considering labor productivity and reducing production cost. This category is having a negative influence on production and, therefore, particularly requires examination.

Profit is a category of classical commodity production. Under capitalist conditions it fulfills the function of extracting surplus labor -- the result of capitalist exploitation. Under our conditions it has been artificially transformed (it has been ascribed the quality of a most important engine of production) and fulfills various functions -- an index of production effectiveness, a source of providing incentives to production and to production workers, social development of the collective, etc. As the result of the increasing role of profits, the influence of the plan, and consequently such a qualitative feature of socialist reproduction as plan conformity, has substantially weakened. Profit functionally strengthened the importance of value indices and reduced the role of natural indices, which facilitated the arising of contradictions between the interests of society and of the production collectives. As a rule, the dimensions of profit formation are determined not by the results of the labor of a given collective, but in a "planned" manner at a higher level, before the start of the labor process, as a previously fixed norm expressed monetarily. Therefore, it often turns out that the amount of profit actually obtained by the collective does not

correspond to the real labor contribution to its production. This has at least two causes.

The wage was partially isolated from its labor basis and separated from actual expenditures of labor. The boundaries were destroyed between necessary labor and labor for society, which form the sources of profit. Increased payment from profit is indicative of the fact that a non-labor redistribution of surplus product is occurring -- an indicator of the violation of plan conformity in the distribution of final income and of the appearance of disproportions between the individual and social consumption funds.

The wage ceased to be the main method of distributing incomes according to labor. It was not accidental that in the years of the 10th Five-Year Plan the rates of wage increases in material production exceeded the growth rate of labor productivity. A disproportion arose between the ability of the population to pay and the mass of goods and amount of services available, and the population's demand for particular goods in short supply increased, while masses of other goods accumulated in retail trade.

Planning (as a method for organizing purposeful activity of a production collective) and the commodity-money mechanism (as a method of realizing plan targets) are practically incompatible under conditions of developed socialism. It is necessary to seek methods of plan realization at the production level which will correspond to planning practice. We believe that most suitable for this purpose is a normative mechanism, the essence of which is not value indices, which now determine the target for the production collective and the results of its activity, but a system of norms that embody the targets of the enterprise. In this, only one plan index -- the list of products being produced and the quantity of goods according to each product list group -- can be applied to the production collective. It is appropriate to define the conditions necessary to produce a product and the results and effect by way of a system of norms: labor expenditure, raw materials, materials and energy for producing the product; use of primary production funds, production capacities, etc. The effect of the enterprise's activity may be determined by comparing actual results obtained in the process of production with target norms. Not conventional, but actual results of production in their natural-physical form will be counted.

But in this case the approach to substantiating and working out norms should be fundamentally changed. At present, tens of millions of norms are worked out, primarily on the basis of the factory method. However, its main mistake is that norms developed directly in enterprises are oriented on concrete and specific production conditions. They do not reflect standard societal production conditions and socially necessary labor costs. A fundamentally new approach to solving this problem is required. We believe that standard societal production conditions and socially necessary labor costs, expressed in working time, must become the main criterion on which the norms of any group are based. But it is not possible to implement this criterion under the present organization. It would be good to shift this work to an extra-departmental basis, giving methodological guidance and expertise to the USSR Gosplan Scientific Research Institute for Planning and Norms. Scientific research institutes and design and technological organizations engaged in

justifying designs and the technology for manufacturing specific types of products could work out a system of norms according to specific product types. Norms must be approved in a state standard, which would present all characteristics of the new product, including all types of expenditures on its production. The shift to a normative method of management is supported by the formation of a corresponding technical basis. The creation of flexible automated systems (GAP) and within them a system of automated forecasting (SAPR) and automated systems for controlling technological processes (ASUTP) presumes a high degree of normative regulation of all production processes.

The normative mechanism for realizing plan conformity and proportionality is changing the approach to the methods of calculating necessary and surplus product. At the present time the enterprise is the start point for their formation and calculation. The necessary product, in the form of the wage for workers in the sphere of material production, takes the form of the population's primary income. Surplus product is seen as profits and turnover tax and constitutes the primary incomes of the enterprise and state. This redistribution of surplus product (calculating at the enterprise level and removal of surplus product according to the appropriate channels) is very laborious, which makes the control system extremely cumbersome. Budget payments, which are a form of removing surplus product, are strictly fixed, both in terms of quantities and time. Their entry into the state budget does not always coincide with the movement, and especially the completion, of the product from the value of which they are "withdrawn" (the product may be incomplete in production, in a warehouse, enroute, etc.). This results in a lack of correspondence between national income expressed in the form of value and its natural-physical support as the sum of material wealth. The normative method presumes the enumeration of necessary and surplus product at the economic branch level, taking into account societal norms of production conditions and socially necessary expenditures of labor and working time. This is fully realizable under the existing economic system, when production, labor and the labor force are directly social in nature and the state realizes the function of manager and organizer and possesses a developed planning system.

The normative method of enumerating necessary and surplus product presumes changing the approach to the role and calculation of wages. The calculation of the quantity of necessary product with the aid of norms for product production must at the same time also come to define the amount of wages due for producing each type of product.

Under this approach, the sum of wage amounts for each type of product (or product list group) will form the wage fund. This approach to calculating wages provides for the most complete realization of one of the most important principles of socialism -- distribution according to work. Under these conditions, wages alone must be the primary material incentive to labor. The press has already stated the opinion that the wage rate must not exceed a unit (a unit is a measure of labor of the greatest quantity and best quality). If a worker does not achieve the required quantity and quality of work, his wages must be less than the unit. Naturally, it would be useful to eliminate the existing procedure, under which wages have come to be paid for showing up at work. When a worker works poorly and puts out defective products, as a rule

he is deprived of part of his bonus, while retaining all of his wages. The proposed approach to the organization of payment requires greater and more complex work in the area of grouping labor according to wage scales.

At the present time, hundreds of thousands of specialists are engaged in developing norms at more than 45,000 industrial enterprises, 59,000 agricultural enterprises, some 45,000 construction organizations, etc. But this army of workers is scattered and lacks adequate methodological guidance. If it were organizationally consolidated and its work were structured differently, the effect would be tremendous and it would be possible to reduce the present number of specialists owing to concentration and scientific organization of labor and to improving the work of each. With respect to this, an automated system of plan calculations, and within it an automated system of norms, is being created within USSR Gosplan and the state planning commissions of the union republics.

Thus, even a brief analysis of the categories of plan conformity and proportionality leads to the need to pose the question of qualitatively improving the mechanism for realizing these categories on a fundamentally new basis, and indicates that this mechanism must be adequate to the needs of the developed socialist economy.

#### FOOTNOTES

1. V. I. Lenin. "Polnoye sobraniye sochineniy" [Complete Works], vol 3, p 620.
2. K. Marx and F. Engels. "Sochineniya" [Works], vol 19, p 18.
3. Ibid. Vol 23, p 51.
4. Ibid. Vol 20, p 321.
5. V. I. Lenin. Op. cit., vol 38, p 252; vol 36, p 354.

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INVESTMENT, PRICES, BUDGET AND FINANCE

ECONOMISTS REVIEW BOOK ON PRICE THEORY

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 12, Dec 84 pp 113-115

[Review by N. Shekhet, doctor of economic sciences, professor, and S. Kirillov, candidate of economic sciences, of the book "Tsena v Khozyaystvennom Mekhanizme" [The Price in the Economic Mechanism] edited by N. T. Glushkov and A. A. Deryabin, Moscow, "Nauka", 1983, 392 pp]

[Text] There has always been a great need for works on price setting in our country but at the present time it is increasing immeasurably because of the urgent tasks for improving the economic mechanism. Therefore the book under review is, in our opinion, a crucial and timely publication which reflects the critical problems in the area of price setting. The concept of price developed in the book relies on the scientific understanding of value and socially necessary labor expenditures. The initial principle which is adhered to by the authors consists in that the usefulness of produced goods and their value are different and opposed categories. Although the amount of value is determined only by the quantity of abstract socially necessary labor, the latter is formed under the influence of a totality of social and economic conditions, including the social consumer value. As is correctly emphasized in the book, "Social evaluations arise with respect to those products and resources which exist in limited quantities" (p 23). Certain economists see here a departure from the monism of the labor theory of value. But, as K. Marx wrote, only the fact that it is rare and requires labor expenditures and therefore has value; the same objects which are not rare which are given from nature do not have any value, for they are not the result of production.<sup>1</sup> Socially necessary expenditures of labor which determine the amount of value and, in the final analysis, the price as well, comprise a complicated social category which is not a simple copy of the actual expenditures.

In the opinion of the authors, in the practice of price setting they have still not eradicated the principle of establishing prices with respect to the actual expenditures and as a result, "prices are transformed from an active instrument for managing the national economy which contributes to optimization of the proportions of production and the level of expenditures into a completely passive accounting category" (p 108). In order to rectify the situation, the prices should be regarded in keeping with their value nature and be determined as the amounts given and not as mechanical sums of

production cost and profit. The experience in this approach to planning prices is generalized in a number of chapters of the book under review.

Prices must be made closer to socially necessary expenditures of labor and to the value, based, however, only on the labor theory of value of K. Marx. It is emphasized in the work that it is possible to equate actual and socially necessary expenditures only when the resources of working time at the disposal of the society are distributed in proportion to its needs. Only under these conditions can prices be constructed on the basis of the calculation of expenditures. To demand that this be done in any case means to confuse the cause and effect and to repeat the mistake of Proudhon which was criticized by K. Marx as early as "The Poverty of Philosophy."<sup>2</sup>

The book reflects the approach which is widespread in our economic literature whereby the planned price is regarded not only as a category of commercial production, but also in a new quality as a category which is inherent immediately in public socialist production. Of course not every price is an expression of value, but value relations should develop to a certain degree in order for the price to appear at all. In this sense the price is always produced from value, and in its irrational form it is a monetary expression of value. As for the planning price which exists under socialism, it--and this is shown with facts in the book--is a contradictory unity, on the one hand, of the price in its classical definition and, on the other, certain conventional-social evaluations, indicators and measurements "which can be characterized as immediately social planning normatives in monetary form" (p 22). Value and planning normatives are two opposed forms of reflection of socially necessary expenditures of labor. In the planning price there is a mutual penetration of these two polls. And the developing and therefore determining aspect of this unity are the planning normatives.

The approach to the planning price as a category which reflects not only the commercial but also the planning ties in the national economy enabled the authors to successfully carry out the main task which they set for themselves: to show the position of the price in the economic mechanism. On the basis of scientific analysis of a large amount of concrete material, the book considers the interaction of price setting and national economic planning, the utilization of the Leninist principle of democratic centralism in planned price setting, the role of prices in the system of cost accounting [khozraschet] and in solving such large economic problems as increasing the effectiveness of public production, more efficient utilization of natural resources, improvement of the quality of the products that are produced, and so forth.

The monograph engages in a polemic with economists who suggest taking into account more fully in price setting the labor-intensiveness of the products and thus creating conditions for streamlining the utilization of the limited labor resources. From the arguments of the authors of the book we can see what would seem to be a strong point: the realization of the proposal formulated above would lead to an increase in the nominal net income but this means an increase in prices of means of production and thus a narrowing of the economic boundaries of the introduction of new technical equipment (p 98). But with an increase in the nominal net income the prices would increase only

under the condition of a mechanical addition of the production cost in the net income, that is, with the utilization of a price-setting method which the authors themselves criticize. But if one approaches the price as a given amount, as a result of the introduction of payments that are normed in keeping with the utilized labor force, there will be a reduction of the net income which remains at the disposal of the cost-accounting units. The society will not sustain losses from this since its expenditures will not increase; only the channels for monetary coverage of part of these expenditures will change. Moreover there will be increased motivation on the part of the enterprises and associations to utilize labor force more economically. By differentiating the payments that are being considered it will be possible in rayons, where the shortage of labor force is felt especially keenly and where increased expenditures are required for the nonindustrial infrastructure, to stimulate the development of less labor-intensive productions, and in the regions with a relative surplus of labor resources--the more labor-intensive productions.

In the introduction to the book under review it says that the authors "tried to draw a sufficiently clear-cut boundary between what is required by theory and what had to be done or has to be done under the influence of the current economic practice" (p 9). In general this approach is adhered to, but there are also deviations from it. Thus when considering the question of fighting against shortages the authors emphasize that as a result of increasing prices once can establish only a local balance and not a general one, on the scale of the national economy. Their reasoning consists in that with an increase in prices there would be a change in the structure and there would be an increase in the proportion and volume of net income. The additional net income, when distributed, becomes somebody's income and there arises additional demand. As a result the shortage remains, but at higher prices (pp 217-218). Obviously, in a concrete situation one cannot eliminate a shortage by raising the overall price level. But on the theoretical plane the argumentation and, correspondingly, the conclusion of the authors of the book cannot be considered universal. The authors are right with respect to a situation in which there are none of the necessary natural-substantial and value proportions among the subdivisions of public production. In this case the shortage can be eliminated in only one way--by changing the structure of public production. But if one assumes that the shortage is caused by the fact that the nominal monetary incomes are greater than the sum of prices of the goods intended for material support for these incomes, in our opinion, the authors of the book are not right. The increase in the production of goods would only reproduce on an expanded scale the presupposed lack of correspondence; it would be possible to rectify the situation only by changing the ratio between nominal incomes and prices.

The work gives data concerning the development of interzonal and even intrazonal differentiation of procurement prices for agricultural products. Apparently, under conditions in which a certain part of agricultural production is not highly profitable or is even conducted at a loss, this phenomenon is inevitable. But one cannot agree with the fact that it corresponds to the nature of the planned price under socialism. Differentiation of prices (if it is not related to the existence of specific local markets) contradicts the law of value and therefore impedes the stimulation of efficient specialization of production; in a number of cases

this makes it disadvantageous for businesses to increase the production of products that are necessary to the society as a whole; it contributes to unsubstantiated reduction of monetary evaluations of losses caused by the farms as a result of careless storage or poor utilization of the industrial products. It is necessary, in our opinion, to eliminate the tendency toward differentiation of procurement prices and, gradually, as the agricultural products become less expensive, first within the RAPO's and then within the framework of larger and larger territorial formations to use unified prices in combination with differentiated deductions from that profit which are normed according to the quality of the land and other production resources that are offered by the society to cost-accounting enterprises.

On the whole the monograph, in our opinion, is filled with content. It considers a number of crucial problems in the area of the science of prices and, we hope, it will be evaluated according to its merits by a wide range of readers.

#### FOOTNOTES

1. See K. Marx and F. Engels, "Soch." [Works], vol 46, part I, pp 120-121.
2. See K. Marx and F. Engels, "Soch.", vol 4, pp 94-95. (C)

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## RESOURCE UTILIZATION AND SUPPLY

### INDUSTRY, PLANNING EXPERTS DISCUSS SUPPLY PROBLEMS

#### Dependency on Deliveries

Moscow PLANOVOYE KHOZYAYSTVO IN Russian No 10, Oct 84 pp 82-89; No 12, Dec 84 pp 60-64

[Article by I. Abalkin, deputy director of the Moscow Plant for Tractor Hydraulic Equipment, and V. Gazman, senior scientific associate of the Central Scientific Research Institute of Technical and Economic Information in Tractor and Agricultural Machine Building, a discussion of materials from the round table entitled "Crucial Problems of Strengthening Delivery Discipline," published in PLANOVOYE KHOZYAYSTVO No 2, 1984]

[Text] At the December (1983) Plenum of the CPSU Central Committee it was noted that during the past year because of measures that were taken the situation in the national economy with respect to the observance of contractual commitments for deliveries of products had improved appreciably. Of special importance here was the decree adopted by the CPSU Central Committee and the USSR Council of Ministers, "On Serious Shortcomings in the Observance of Contractual Commitments for the Delivery of Products and Increased Responsibility of Ministries, Departments and Enterprises in This Matter." According to the results of 1983 the sales plan taking into account contractual commitments was fulfilled by industry by almost 98 percent. During the 7 months of this year the level of deliveries in industry as a whole increased to almost 99 percent. There are more and more enterprises which are fulfilling the delivery plans completely with respect to the entire ordered list of products. The greatest results have been achieved by the Ministry of Tractor and Agricultural Machine Building which fulfilled its commitments for deliveries by 99.2 percent and assumed first place among the 11 machine-building ministries. The majority of enterprises of the all-union industrial associations fulfilled all of their commitments: Soyuztraktordvigat'l', Soyuzkombaynprom and Soyuzmashtekhhkul'tur. A number of enterprises of the Ministry of Tractor and Agricultural Machine Building--the Dnepropetrovsk Combine Plant imeni K. Ye. Voroshilov, the Gomel and Mikhaylov starter engine plants, the Production Association Vil'nyusskiy Zavod Toplivnoy Apparatury imeni 50-Letiye SSSR, the Krasnodar Oktyabr' Plant and the Agricultural Machine-Building Plant imeni 60-Letiye SSSR, Tashsel'mash and the NPO Tekhnolog--for 6 years have fulfilled completely and on time the deliveries under agreements they have concluded and orders they have accepted. The well-organized intraplant production planning and economic stimulation,

which made it possible to work rhythmically, the high level of organization of the work for concluding agreements and forming the plan for deliveries as well as coordinating it with funds and orders submitted by higher planning organizations and clients, and also the effective operational control over the fulfillment of contractual commitments all contributed to the success.

Prompt and complete fulfillment of contractual commitments, as the work practice of the best labor collectives shows, can be provided with the observance of the following conditions: the organization of continuous material supply; the provision of supplies of raw materials, fuel and semimanufactured products in all stages of production; the introduction of the method of work according to a schedule which determines not only the output of the final items, but also the beginning of the production of parts and semimanufactured products; and more rapid (as compared to assembly shops) work of procurement shops. Thus according to calculations the Gorniy Plant for Starter Engines should constantly have in its sales warehouse a 10-day supply of final products. This made it possible to create the necessary conditions for 100-percent fulfillment of all delivery commitments each month. Things are run similarly in the Production Association Vil'nyusskiy Zavod Toplivnoy Apparatury imeni 50-Letiye SSSR. At the Dnepropetrovsk Plant imeni K. Ye. Voroshilov they constantly maintain a batching supply for all 6,000 kinds of parts which are intended for differentiated coefficients of completeness of the work of the shops for all kinds of commercial products. These coefficients average 0.85-0.89. The parts are stored in containers. For this they use 10,000 convenient mini-containers, which makes it possible to utilize effectively the limited production space. With the help of the automated control system for the entire technological process there is efficient daily control over the movement of each part, and also the completeness of the products that are sent to the sales warehouse.

At the production division of the plant they draw up for each shop a schedule of the proportionality of the work for the various days of the month. A system of personal material responsibility has been introduced. If the shop fails to maintain the level of completeness envisioned by the assignment without objective reasons, in keeping with the provisions in effect at the plant the bonus for the management of the shop and the workers of the production and distribution bureau is decreased by 8 percent. When the work is continuous the bonus for workers is increased correspondingly. Thus the creation of substantiated production stockpiles actively contributes to making sure the enterprises fulfill the contractual commitments for the delivery products. In our opinion, the statement of the problem concerning the necessary plan for creating supplies of prepared products in the production associations and manufacturing enterprises seems correct.<sup>1</sup> But here one should clarify two important circumstances. First, it is necessary to have in mind supplies not simply of final products, but a batching supply, since when the sets of final products are not complete there is an immobilization of circulating capital, which is shown by the work experience of the Kharkov Plant for Self-Propelled Tractor Chassis, the Krasnoyarsk Production Association for Grain-Harvesting Combines, and the Kotelnikov Plant for Agricultural Machine Building. In the second place, there must be further study of the possibility of applying the normative of supplies of prepared

products. At a number of tractor and agricultural machine-building enterprises that are operating well this indicator is 1.5 times less.

The delivery discipline is not at the proper level at all enterprises and production and scientific-production associations, which was emphasized at the December (1983) Plenum of the CPSU Central Committee. And yet according to the conditions of the experiment which was conducted in five branches of industry, the indicator of product sales taking into account the fulfillment of delivery commitments is becoming the decisive one in evaluating the work of the enterprise.

The conclusions from the first results of the experiment in industry show that in order to strengthen delivery discipline it will be necessary to do a good deal through the efforts of the workers of various branches of the national economy. A good deal here depends not only on the work of the industrial enterprises, but also on the agencies for material and technical supply, transportation, and all those units of administration which are called upon to provide for continuity and rhythm of the production process. When there are violations of contractual commitments each of the participants in the given process must be responsible for part of the guilt. The commitments are concluded mutually and, consequently, the responsibility of the partners for their fulfillment should also be mutual.

One would think that this would be a direction for improving the conditions of the experiment and organizing production in branches of industry. Strengthening of planning discipline presupposes closer coordination of the entire system of plans of enterprises and production associations. And the delivery plan should occupy in it a particular, legally stipulated position. At the present time there is no consensus of opinion among scientific workers and practical workers regarding the question of the essence and content of the delivery plan. They have not considered the question of what its indicators should be. Because of this the delivery plan has not become a constituent part of the technical and industrial-financial plan of the enterprise.

The suggestion of several authors concerning refining the policy for calculating the delivery plan is correct, in our opinion.<sup>2</sup> It should be not simply the mechanical sum of value of the products under concluded agreements and other planning documents, but should contain such important elements as the duration and forms of economic ties of the suppliers and the consumers along the line of production-consumption. It is also necessary to establish the sequence in carrying out the orders of individual consumers (for start-up facilities of statewide importance, the needs of agriculture, the Far North and so forth).

Attention is drawn to the fact that, with all the significance of the indicator of the fulfillment of contractual commitments, a number of enterprises, associations and ministries, as before, continue to consider the indicator of overall sales volume to be more "significant" since the amount of profit depends on its level. Here the fulfillment of planning assignments for the overall volume of sales is rarely reached through the output of items that are not envisioned by delivery commitments. In 1983 more than 90 percent of the enterprises and the production associations of the Ministry of Tractor and

Agricultural Machine Building that did not fulfill their delivery commitments did fulfill the assignment for the overall volume of sales.

At the present time in individual ministries and in machine building as a whole the average level of fulfillment of the plan, taking into account the assignments and commitments for deliveries, is lower than the plan for the overall volume of sales. If the dependency between the former and the latter indicators is regarded as an index of the amount by which one evaluating indicator exceeds the other, this shows that satisfaction of the need of the national economy for the products of a given enterprise, association or ministry fall behind the overall quantity of products sold. Thus the index of increase in 1979 for the Ministry of Chemical Machine Building was 1.080; in 1980 for the Ministry of Machine Building for Animal Husbandry--1.051; in 1982 for the Ministry of Machine Building for Light and the Food Industry--0.054; and in 1983 for the Ministry of Heavy Machine Building--1.068.

A question arises here: does the consumer need the products which are produced to replace the ones envisioned by the agreement? Regarding this let us refer to the following example. In 1982 the plants of the Ministry of the Automotive Industry manufactured millions of unordered bearings. As a result the supplies of unutilized bearings in the consumer enterprises increased 1.7-fold. For their production they used 10,000 tons of high-quality rolled metal that would be suitable for producing those bearings which were needed in the national economy and were ordered but were not manufactured. In the majority of the cases the consumers receive items that do not fully meet their requirements, and they are still largely dependent on the producers who dictate to them the conditions for sales which they find convenient. Hence it follows that there are practically no unsold products for production and technical purposes. And as a result the harm is caused to the national economy as a whole since the budget is filled with money that comes from the sales of unordered products.

The experience in management during the 1960's-1970's showed that "money from the great intermediary of exchange became the goal of the activity of the enterprises. And it was the sum of money earned and not the satisfaction of the needs of the society that began to interest the collectives, and its amount became the main measure of 'skillful' management. Such a deformation distorted the connection between the interests of the collective and those of the society."<sup>3</sup> Consequently, it is necessary to conduct an analysis of the correspondence of the volume of products sold by the enterprise and association to the public needs determined through the delivery plan.

When investigating the dependency between the fulfillment of contractual commitments by the enterprise and the plan for profit it is necessary to take into account such a negative factor as the sale of products for which there are no agreements. Up until recently the qualitative measurement of the results was attached to profit without the proper analysis of its origin. It seems expedient to establish a certain dependency between the fulfillment of the sales plan taking into account assignments and commitments for deliveries and the amounts of profit left with the enterprise. The effect of this undesirable factor can be eliminated with the help of financial levers for withdrawing profit that is obtained as a result of this factor.

An important area for financial control over the suppliers is the work for preventing and reducing nonproductive expenditures, losses and above-plan losses that arise because of failure to fulfill contractual commitments. But the mechanism of fine sanctions that is being applied is not always effective. This is because there is frequently no correspondence between the volume of products that are not delivered according to the agreements and the amount of the fines. According to the calculations, the ratio between the fines, those that are imposed and those that are actually paid is 5:2:1.

There are various reasons for this. First and foremost, the time periods for the violation of contractual commitments for deliveries and the payment of fines are not intercoordinated. As arbitration practice of the Ministry of Tractor and Agricultural Machine Building shows, no less than 210-250 days pass between the time of the violation of the delivery commitments, the time complaints are filed, the time they are considered (sometimes repeatedly) and the payment of the fine. Moreover the violator enterprises frequently, relying on the existing policy, can put off the payment time until a financial period that is more convenient for him. Thus the Taganrog Combine Plant in July 1982, in keeping with the agreement that was concluded, failed to deliver the necessary products to the Aksaykardandetal' Plant, for which it was to have paid a penalty in the amount of 5,000 rubles. But the complaint that was submitted was never satisfied. And only after turning the suit over for arbitration did the defendant admit his guilt. It was not until 8 months after the contracting agent violated the contractual commitments that the Aksaykardandetal' Plant manage to obtain the sum it had coming.

In violation of the provisions that were in effect concerning deliveries, the plans for production in a number of cases are adjusted without coordinating the changes with the consumers. Frequently the consumer enterprises do not file suit for the losses and fines against the suppliers since they are dependent on them.

Further, there is the practice of the so-called reciprocal accounts, that is, when there is a mutual failure to deliver products the contracting agents do not impose fines on one another. In this connection attention should be given to the experience of the production association Vladimirskiy Traktorny Zavod imeni Aazhdanov, in which the provisions concerning cost accounting of the enterprise envision that the corresponding functional subdivisions are to check on prompt delivery to the enterprise of products for production and technical purposes. The material incentives for the workers of the subdivisions are partially provided through fines which are paid by the supply enterprises. But if intraplant complaints are made against the subdivision or there is an overrun on estimated current expenditures, which usually leads to elimination of the bonuses, these deviations are also made up for through part of the fines obtained by the enterprise.

Finally, the existing policy for establishing fines (in the amount of 8 percent of the value of the products that are not delivered) presupposes that the complaints are the same against suppliers who were late in their fulfillment of contractual commitments, for example, by 2 weeks or by 2 months. This situation cannot be regarded as correct. In our opinion, it

would be expedient to establish a normative whereby the sanctions would be imposed depending on each day by which the deliveries are late. For purposes of unity in the amounts of the normatives, the normative for the fines should be established based on its being equal to bank interest on credit.

Moreover, it is economically expedient to coordinate the amounts of the sanctions directly with the losses caused by the failure to deliver the products. We share the viewpoint of those economists who think that a normative of 8 percent does not correspond to the essential differences in the amount of harm caused by the failure to deliver various goods. But the conclusion drawn from this that the percentage norms should be differentiated, say, with respect to the failures to deliver costly goods at less than 8 percent and those that are not costly--more than 8 percent--seems insufficiently justified in terms of its quantitative indeterminacy and, the main thing, because of the impossibility of completely making up for the damage caused by the failure to fulfill contractual commitments.<sup>4</sup>

Till the present time there has been no unified set of provisions regulating the policy for making reimbursement for losses. The methods used in a number of branches (Ministry of the Automotive Industry, Ministry of Light and the Food Industry, Goskomsel'khoshtekhnika) have a limited range of application.

It seems to us that there is now a need for the appropriate agencies to make a definitive decision regarding this issue.

An important place in strengthening delivery discipline is occupied by material incentives. In the ministries of the electrical equipment industry and heavy and transport machine building which beginning in January 1984 were changed over to the economic experiment, a policy was established whereby for each percentage of underfulfillment of the sales plan, taking into account delivery commitments, the material incentive fund will be reduced by 3 percent.

Beginning in 1981 the indicator for the fulfillment of contractual commitments for the delivery of products has affected not only the reduction, but also the increase in the material incentive fund. When the production associations (enterprises) have fulfilled assignments and commitments for the delivery of products for each quarter and as a running total from the beginning of the year in the correct assortment and on time in keeping with the agreements that are concluded, the material incentive fund which is determined for the corresponding period in the financial plan is increased by up to 10 percent. The source of this increase is the above-plan profit of the enterprise and, in the event that it does not have enough, the reserve part of the material incentive fund for the ministry or all-union industrial association.

In 1983 in the Ministry of Tractor and Agricultural Machine Building 75 enterprises in various stages (quarters) fulfilled contractual commitments by 100 percent, and 57 of them fulfilled them according to the results of the year.

But practice has shown that the increase in the material incentive fund is achieved not from 100-percent results of one or several (with a running total)

quarters, but only at the end of the year and with the fulfillment of contractual commitments in each quarter. In 1983 there were only 27 of these enterprises in the Ministry of Tractor and Agricultural Machine Building. And even then it is difficult to receive increments to the material incentive fund since the enterprises do not always have above-plan profit which they can transfer into the material incentive fund. This is related to the fact that the enterprises that are included in the ministries that have been transferred over to the normative method of distributing profit should transfer no less than half of their above-plan profit into the budget, and the remaining sum must be used to pay interest on bank credit and, if necessary, make up for shortages in their own circulating capital.

The reserved part of the material incentive fund of the ministry or VPO, as a rule, is not utilized for additional incentives for production associations (enterprises) that fulfill agreements by 100 percent. And although this reserve is formed to a large extent through enterprises that are operating well, it is used most frequently to support enterprises that have ended up in a difficult financial position. As a result, many enterprises that have fulfilled assignments and commitments for the delivery of products cannot increase the material incentive fund since they do not have the corresponding sources for this. For example, of the 14 enterprises that are included in the all-union industrial associations Soyuztraktordvigatel, Soyuzsel'khoz mashgidroagregat, Soyuzmashtekhkul'tur and Soyuztraktor zapchast and fulfilled contractual commitments by 100 percent in terms of the running total for all quarters and for 1983 as a whole, only four received 10 percent and one received 8.5 percent increments to the material incentive fund.

The situation shows the need for further improvement of the policy that is in effect. In the economic experiment that is being conducted in the Ministry of the Electrical Equipment Ministry and the Ministry of Heavy Machine Building there is an interesting provision whereby the material incentive fund of the suppliers will be increased by 15 percent. The deductions into the material incentive fund are made during each quarter (as a running total from the beginning of the year). They can be augmented if there is a shortage with funds formed from reducing deductions from profit into the budget and, if necessary, from funds formed from reducing payments. Such measures guarantee production associations (enterprises) that are operating well an unconditional increase in their material incentive funds.

Yet, as certain economists correctly point out, the existing policy for accounting for the fulfillment of contractual commitments as a running total from the beginning of the year makes it possible for the production collectives during the course of the year to fail to make deliveries and at the end of the year, having made up for the arrears, to take all of the material incentive funds.<sup>5</sup> This negative situation has not been eliminated in the documents that regulate the work of the enterprises under the conditions of the experiment either.

It seems to us that a maximum increase in the material incentive fund according to the results of the quarter should be established for enterprises that have fulfilled contractual commitments by 100 percent during the course of all 3 months. And if the enterprise has not fulfilled its contractual

commitments for one of the months and then, from the results of the quarter, have made up for what was omitted, the amount of the material incentive fund should be 15 percent less. Such a measure, in our opinion, will contribute to increasing the uniformity of the deliveries.

It is also necessary to have closer coordination of the material incentive fund and the system of bonuses for the fulfillment of assignments and commitments for deliveries. The maximum normatives initially established at a number of enterprises for underfulfillment for contractual commitments reached 10 percent and more. Beginning in 1982 they should not exceed 2 percent, and in exceptional cases--3 percent. But in individual ministries preference has been given to the latter. Thus in 1982 in the Ministry of Tractor and Agricultural Machine Building such an indicator was established for 52.6 percent of the enterprises, and in 1983--46.7 percent of them. Unfortunately, such a policy is typical of more than just the Ministry of Tractor and Agricultural Machine Building.

At the December (1983) Plenum of the CPSU Central Committee it was noted that certain managers have taken advantage to the full extent of the "right" to establish a maximum percentage of underfulfillment. For example, a number of machine-building ministries have applied the maximum limit for underfulfillment of contractual commitments for almost half of their enterprises. In order to eliminate such a vicious practice, the Ministry of Tractor and Agricultural Machine Building adopted a decree to be stricter in 1984 concerning the maximum percentages of underfulfillment for practically all enterprises. As a result, the number of production associations (enterprises) for which the maximum percentage was established in the range of from 2.5 to 3 percent, was reduced to 34 percent. At the same time the number of enterprises and production associations for which the normative was established at 0.9-1 percent increased from 31.1 percent in 1983 to 41.5 percent in 1984.

For an objective substantiation of the normative of the maximum percentage of underdelivery, it would be expedient to be guided by the methods which envision a reduction of the amount of underfulfillment of contractual commitments. The instructions which are in effect do not regulate this policy.

From the work experience of the past 5 years at enterprises of the Ministry of Tractor and Agricultural Machine Building no cases were noted in which the fulfillment of contractual commitments was equal to or exceeded the volume of sales. Theoretically it is possible to have a situation in which the products are sent to the consumers and the delivery plan is fulfilled, but for one reason or another the payments for them are not made, that is, the sales plan is not fulfilled by the enterprise. In our opinion, the amount by which the former indicator exceeds the latter should become an adjusting coefficient which is used when placing stricter requirements on the maximum level of underfulfillment of contractual commitments.

The question of bonuses paid to workers for the results of the fulfillment of contractual commitments is an important one. At many enterprises the existing provisions concerning bonuses make it possible to provide incentives for a

considerable number of engineering and technical personnel and employees, irrespective of their fulfillment of contracts and schedule orders. Therefore it seems expedient to introduce in the branches of industry standard provisions concerning bonuses in keeping with the keeping with the fulfillment of contractual commitments for the delivery of products.

The problem of coordinating the economic activity of the manufacturing enterprises with the work of the supply and sales organizations remains unsolved. Frequently in order to fulfill the plan for delivery of products they send them in small batches--less than the minimal norms. Then there arises a situation in which, in keeping with the planning documentation one stockholder is assigned to the enterprise, but in reality there are several dozen of them.

The situation which has been created, in our opinion, can be eliminated by reinforcing the intermediary role of the territorial agencies of the USSR Gosstab in organizing the delivery of products. The contracting agents must come to an agreement with agencies of the USSR Gosstab and the USSR Goskomsel'khoztekhnika concerning the development of a policy whereby the products in volumes less than the transit norm are sent to the consumers on the basis of an agreement between the partners with a frequency of deliveries that is more convenient for the supplier.

Of essential significance for strengthening delivery discipline is socialist competition which, when correctly organized, enables production associations (enterprises) to cope more easily with the fulfillment of contractual commitments. At leading enterprises this work is a constituent part of the complex of measures for unconditional fulfillment of all orders of the consumers. This is shown by the experience of the Moscow Plant for Automotive and Tractor Electrical Equipment (ATE-1) which has been widely publicized in the press.

One of the main stages in the process of organizing socialist competition is the adoption of socialist commitments in which the collectives of shops, enterprises, associations, ministries, departments, oblasts and republics devote special attention to the strengthening of delivery discipline. In 1984 a number of collectives of enterprises are envisioning completely fulfilling contractual commitments for deliveries of products for industrial and technical purposes. For example, such commitments were taken on by workers of the tractor assembly shop of the Chelyabinsk Tractor Plant imeni V. I. Lenin, the Kharkov Serp i Molot Engine Construction Association, the Dnepropetrovsk Combine Plant imeni K. Ye. Voroshilov, the Moscow Automotive Plant imeni I. A. Likhachev, the Volgograd Engine Plant and others. All these cases show that socialist competition is becoming an effective factor which influences the strengthening of delivery discipline.

The generalization of the results of the economic experiment for expanding the economic activity and increasing the responsibility of enterprises will be of great significance for strengthening delivery discipline. When discussing the preliminary results of conducting the experiment at the Politburo of the CPSU Central Committee it was noted that the fulfillment of the plan was improved in terms of one of the major indicators--product sales, taking contractual

commitments into account.<sup>6</sup> In 1985 there will be a larger number of ministries operating within the framework of the economic experiment. Collectives of enterprises which produce 15 percent of all the industrial output will be working under the new conditions.

Preparing for and carrying out this work require comprehensive substantiation. But one must keep in mind that for prompt fulfillment of the delivery plans at enterprises and in production associations it is necessary to carry out comprehensive economic and organizational measures which provide for the fulfillment of economic agreements, that is, for fuller satisfaction of the needs of the national economy for specific kinds of products.

#### FOOTNOTES

1. See PLANOVOYE KHOZYAYSTVO, No 7, 1984, p 76.
2. See PLANOVOYE KHOZYAYSTVO, No 5, 1984, p 41.
3. KOMMUNIST, No 12, 1983, p 64.
4. L. I. Mokeyeva, "From the Practice of Economic Contractual Relations," IZVESTIYA AN SSSR. SERIYA EKONOMIKHESKIYA, No 2, 1984, p 48.
5. See PLANOVOYE KHOZYAYSTVO, No 5, 1984, p 41.
6. PRAVDA, 24 August 1984.

#### Problems of Strengthening Delivery Discipline

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 12, Dec 84 pp 60-64

[Article by V. Il'in, Scientific Subdivision of the USSR Gosplan]

[Text] In keeping with the decisions of the 26th Party Congress and subsequent plenums of the CPSU Central Committee, the USSR Gosplan in conjunction with the USSR Gosplan, the ministries and departments and the councils of ministers of the union republics are conducting systematic work for further improvement of planning, the indicators for evaluating the economic activity of the ministries, associations (enterprises) and organizations, and the forms and methods of their production ties, as well as for increasing the economic responsibility of all management units for prompt fulfillment of assignments and commitments for the delivery of products.

The work that is being conducted was reflected in the decrees of the CPSU Central Committee and the USSR Council of Ministers concerning improving the economic mechanism (July 1979), economizing on material resources (June 1981), serious shortcomings in the observance of contractual commitments for the delivery of products (April 1983), expansion of the rights of production associations (enterprises) of industry (July 1983), acceleration of scientific and technical progress in the national economy (August 1983), and so forth.

These and other decrees make stricter demands on planning agencies in the development of plans that are balanced between production and material and technical resources, the observance of established time periods for the development of plans and their presentation to the performers, and the establishment of a system of planning indicators and criteria for the evaluation of economic activity which orient labor collectives and all economic and planning agencies toward intensive development of the economy and its increased effectiveness.

The magazine's publication of articles on problems of strengthening delivery discipline and their subsequent discussion are of a certain amount of interest for economists.<sup>1</sup> The survey of the published articles makes it possible to draw the following conclusions.

Concerning questions of planning production and organizing contract work. An important requirement for improving the planning of production and the distribution of products is the development of these within time periods which preclude the need for advanced provision of schedule orders for goods to the consumers and make it possible to provide for the issuance of orders (assignment plans) by the USSR Gosplan for the delivery of no less than 1.5-2 months before the beginning of the planning period.

The practice of developing the draft of the plan for 1984 for associations (enterprises) of ministries that have been transferred over to the economic experiment has shown that indicators of production and material resources should be submitted before 15 August-1 September of the year before the one being planned, which will make it possible to promptly organize production and carry out measures for eliminating bottlenecks as well as to conclude a contract before the beginning of the planning year. Similar work has been done when drawing up the plan for 1985.

All this has required that workers of the USSR Gosplan and the USSR Gosplan in conjunction with interested ministries and departments make the corresponding changes in the existing policy and time periods for the development of plans for the economic and social development of branches of the national economy, and also envision measures for strengthening the influence of contractual relations on the development of the production program of the associations (enterprises). This issue was reflected in the methodological instructions concerning the policy and the time periods for the development of the five-year and annual plans for the economic and social development of the Ministry of the Electrical Equipment Industry, which was coordinated with the USSR Gosplan and the USSR Gosplan and was approved by the ministry in March of 1984.

The policy and time periods for the development of drafts of branch plans for economic and social development for 1985 were determined by a decree of the USSR Gosplan and the USSR Gosplan (June 1984), in keeping with which the ministries that have been changed over to the economic experiment provide for submitting refined indicators of the plan for 1985 to the production associations (enterprises) before 1 September 1984. In turn, the USSR Gosplan sent the union ministries the indicators for the draft of the plan before 15 August 1984.

One of the requirements of the economic experiment is the development of direct long-term economic ties. Practice has proved their great effectiveness. They make it possible for the production workers to prepare better for filling the orders on time and for the consumers to have greater opportunities to influence the qualitative characteristics of the items. But the question of the development of five-year and annual plans on the basis of these ties has still not been given a methodological solution.

Certain authors consider the question of direct long-term ties only from the standpoint of their development in the area of material and technical supply and not as an instrument for forming the production program of the association's enterprises).<sup>2</sup> Their suggestion regarding improving direct long-term economic ties through establishing assignments for the proportion of products is a half-measure. Their proposal concerning the creation of these ties only among enterprises with mass and large-series production and also when delivering unique equipment on individual orders also limits development.

In our opinion, it would be expedient to think about the possibility of changing over to direct long-term economic ties of associations (enterprises) not for individual kinds of products, but for the basic plan of the products list for production. Then for an insignificant volume of production of the number of items in various positions on the products list the associations (enterprises) could enter into direct long-term economic ties with territorial supply agencies of the USSR Gosstab.

We share the viewpoint of the authors to the effect that for products which are not delivered under direct long-term economic ties the USSR Gosstab and its agencies could be intermediaries between the supplier enterprises and the consumer enterprises. The territorial supply and sales administrations should also act as the clients for the products which are needed in insignificant quantities by a large number of consumers, cargo recipients and cargo dispatchers, and not only the supply distributor among numerous consumers.

Acting on these suggestions will contribute to solving such an important problem as the delivery of the products from the supplier enterprises to the consumers, who receive it mainly in containers.

The work experience of the enterprises shows that the question of dispatching products in quantities less than the transit norms requires further improvement. In this connection a number of ministries seem to have a correct point of view regarding the need to conclude agreements for the sale of such products through enterprises of the USSR Gosstab system which are located not only in the region of activity of the consumers, but also in the area where the suppliers operate.

Concerning the question of improving indicators for planning the evaluation of the results of the economic activity of the ministries, associations, enterprises and organizations. The majority of economists and managers agree on the question of improving the indicators for evaluating the economic activity of ministries and production collectives and the application of the system of evaluation indicators. In keeping with the decree of the CPSU

Central Committee and the USSR Council of Ministers (June 1983), at enterprises of ministries that have been changed over the economic experiment the main evaluation indicator has been the volume of sales taking into account the fulfillment of commitments for the delivery of products.

The results of the work of the associations (enterprises) during 1984 confirm the correctness of the selection of this indicator. Under the new conditions of management, at the enterprises and associations there was improvement in the fulfillment of deliveries and the observance of contractual commitments, planning assignments were increasing labor productivity and reducing production costs were overfulfilled, and a complex of measures was carried out which were envisioned by the decree of the CPSU Central Committee and the USSR Council of Ministers concerning expansion of the rights of production associations (enterprises) in planning and economic activity.

Certain authors think that the indicator under consideration requires refinement both in terms of its form and in terms of its content. To determine the fulfillment of assignments and commitments according to deliveries of products they suggest a new indicator--the volume of deliveries since, in their opinion, the indicator of the volume of product sales taking into account the fulfillment of delivery commitments does not provide for precision of calculations. But, in our opinion, this viewpoint is incorrect since introducing such an indicator would require an unjustifiable increase in planning and accounting work at all levels of management and would not make any essential changes in the level of planning of assignments and commitments for the delivery of products. According to calculations of the USSR Gosplan and the USSR Central Statistical Administration, deviations in the fulfillment of deliveries according to the existing methods amount to only 0.2 points. Moreover, during the period of the development of the draft of the plan neither the USSR Gosplan nor the USSR Gosstat nor the branch ministries has the necessary information for calculating the volumes of deliveries of products for specific consumers.

It would also be incorrect, in our opinion, to raise the question of coordinating the indicator of the sales volume with the indicator of the fulfillment of product deliveries since the latter is determined from the time of dispatch while the volume of product sales is determined according to the receipt of funds into the account of the supplier. Under these conditions they are not comparable.

Concerning the question of the dependency of the deductions of the material incentive fund on the fulfillment of deliveries and other problems of strengthening delivery discipline. Here attention should be given to the approach to the question of deducting part of the material incentive fund depending on the time when the undelivered products are finally delivered. This factor is not reflected in the existing provisions concerning the formation and expenditure of incentive funds. In order to solve this problem, apparently, it would be necessary to introduce a special account and, consequently, also to increase the staffs. All this is unacceptable. In our opinion, a certain proportion of the money from the material incentive fund that is received because of making up for undelivered products should be reserved and utilized under the established policy.

The policy for additional deductions into the material incentive fund for prompt and complete fulfillment of deliveries for enterprise participating in the economic experiment also needs clarification. The new thing here is not only the increased amount of additional deductions (15 percent instead of 10 percent), but also the sources for covering them in the material incentive fund--from the part of the profit that remains at the disposal of production associations (enterprises), and when that is not enough--through reducing payments from profit into the budget.

The enterprises that are operating under the conditions of the economic experiment have found real sources of additional deductions into the material incentive fund with complete fulfillment of commitments for deliveries in keeping with the agreements that are concluded, and they have greater interest and responsibility for the fulfillment of assignments.

Certain economists think that it is necessary to change the existing policy for establishing for the associations (enterprises) and organizations the maximum percentages of underfulfillment of assignments and commitments for the delivery of products after which the managers are deprived of all of their bonuses for the basic results of the economic activity. In our opinion, we should not change the policy, but abolish the establishment of maximum percentages of underfulfillment of products, which ensues from the decisions of the December (1983) and subsequent plenums of the CPSU Central Committee.

The bonuses should be paid to management workers of associations (enterprises) and organizations only with complete fulfillment of assignments and commitments for the delivery of products. Then it is expedient to grant the ministries and departments the right to permit, as an exception, the payment of bonuses to management workers for the basic results of the economic activity in reduced amounts in the event of an insignificant underfulfillment of deliveries (1 percent).

We share the viewpoint of the authors concerning the need to improve the organization of warehouse supply and paths for its development. In this connection attention should be given to the work experience of the Leningrad main board of the USSR Gosplan.<sup>3</sup>

In the matter of strengthening delivery discipline certain authors assign a particular role to the creation of the necessary supplies of final products, which leads to a considerable increase in the normative of the final products. In recent years the situation with respect to supplies of commodity and material values in industry as compared to the established norms for circulating capital have become unsatisfactory. Their growth rates have significantly outstripped the growth rates of production. In order to solve this problem, in our opinion, it is necessary to implement a complex of measures for improving planning and improving the organization of production, operational-calendar planning, and the system of control over the fulfillment of the deliveries of products.

The promptness of accounts with the consumers for the products that are delivered and other services undoubtedly affects delivery discipline.

Recently a good deal of attention has been devoted to this question. But suggestions are being made regarding improvement of accounts with which one cannot agree since they do not correspond to the principles of socialist management. Suggestion to grant credit to the supplier and not to the consumer in order to pay for the products that are delivered is also misguided.

Another crucial problem is that of increasing the effectiveness of property liability of the supplier for the fulfillment of contractual commitments, the violation of funding discipline, the substantiation of orders for material resources and orders for the delivery of goods, and transportation organizations for the failure to fulfill plans for shipments. In our opinion, this problem can be solved by reducing the time periods within which the supplier pays the sums he owes to the consumer in penalties (for failure to deliver or late delivery) and in the event of unjustified deviation on the part of the supplier from the voluntary payment of the fine--to demand it under the policy for deductions due to nonacceptance.

As for the problem of increasing the responsibility for the substantiation of applications for material resources, when the need for these resources is unjustifiably increased. The subsequent refusal to accept the products and goods allotted through these funds (in keeping with the submitted applications and orders) from the ministries and shareholding departments in the form of cost-accounting agencies, the industrial associations, and, in the appropriate cases, the supply-sales and trade organizations should make reimbursement to the manufacturing enterprises for the damages caused by expenditures for the organization of the output of these products and goods and the removal of these same goods from production.

The transfer of energy, water and gas and the conducting of repair work in violation of the established time periods and volumes exert a negative influence on the fulfillment of the production program by the manufacturers and consequently, on the deliveries as well. Therefore we share the viewpoint of the authors concerning the need to establish a policy for evaluating the activity of repair and energy-, water- and gas-supply enterprises on the basis of their fulfillment of commitments to the consumers.

The implementation of the earmarked measures as well as others will make it possible to strengthen delivery discipline.

#### FOOTNOTES

1. See PLANOVOYE KHOZYAYSTVO No 5, 1984, pp 38-46; No 7, 1984, pp 73-81; No 10, 1984, pp 82-89.
2. See PLANOVOYE KHOZYAYSTVO No 5, 1984, pp 38-46.
3. See PRAVDA 25 July 1984.

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## RESOURCE UTILIZATION AND SUPPLY

### IMPROVED WAREHOUSING INTRODUCED IN KAZAKHSTAN

Alma-Ata NARODNOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 12, Dec 84 pp 40-43

[Article by M. Beisov, head designer of plans of the Alma-Ata branch of the Orgsnab Planning-Design Technological Institute of Agriculture, and S. Volobuyev, head design planner: "Warehouses of the Elevated Type"]

[Text] By the Method of Reconstruction. When Neither Snow Nor Wind Nor Rain Is Terrible. Recouped Amount--Doubled

The USSR Gossnab system has been given the task of further development and improvement of its own material and technical base. The construction of new warehouses and the expansion, reconstruction and technical re-equipment of existing ones, equipping them with progressive lifting-transport and technological equipment, introducing advanced technology for warehousing and cargo processing on the basis of the elimination of manual labor--in the final analysis these should end up in a savings on material resources and increased public labor productivity.

Moreover, in the branch under consideration it is of no small importance to ensure maximum preservation of the consumer qualities of the goods, their quantitative and qualitative integrity, and, moreover, recently a course has been taken toward improving the consumer qualities of goods through developing services of an industrial and preparational nature.

Unfortunately, a large amount of harm is still being caused to the national economy by irreplaceable losses of material resources. If their quantitative significance in the sphere of circulation is reflected in the planning and economic activity of the supply and sales enterprises (losses and shortages of goods en route, losses within the norms and above the norms of natural loss), the damage caused from deterioration of production quality is not taken into account at all.

A reduction of irreversible quantitative losses of material resources in the Kazakh SSR Gossnab system alone would make it possible to save tens of thousands of rubles each year.

An extensive list of industrial products can be stored for a long time in unheated covered warehouses without appreciable deterioration of the quality.

Unfortunately, in the statewide system of supply at the present time there is a considerable shortage of covered warehouse areas.

The first step in solving this problem was extensive introduction of structures of the elevated type which are created through reconstruction and technical re-equipment of open warehouses.

The latter are areas with concrete or asphalt-concrete pavement which are equipped with rail, gantry, tower, and rarely railroad, bridge or automotive cranes.

The method of storing the material is basically the stacking method; and the height of the stack, as a rule, does not exceed 2 meters. If the capacity of the warehouse equipped with gantry or bridge crane is considered to be the product of multiplying the space by the height to which the material is lifted, the coefficient of the capacity and the height amount to no more than 0.2-0.3.

Therefore in this case it becomes especially important to increase the height of the storage of material resources. This can be achieved through replacing the stacking method of storing with the shelf or shelf-stack method.

The planning-design technological institute of warehousing, Orgsnab, has developed and introduced for the first time at the Gorkiy Universal Complex elevated shelves which make it possible to replace the shelf method of storage with the shelf-stack method within a single warehouse capacity. The main difference between the elevated shelves and the framework shelves which are used in closed warehouses is the solid bearing covering along the upper shelves to which one raises and stores the cargo from the means of transportation or from the floor of the area (large equipment, containers and so forth), and in the boxes one places small cargoes which are placed on pallets beforehand.

This solution has become widespread in the plans of designs for open warehouses which were developed by the Alma-Ata branch of the Orgsnab Institute for enterprises of the Kazakh SSR Gosnab system in Alma-Ata, Petropavlovsk, Ust-Kamenogorsk, Chimkent and others.

The practice of using these structures of the elevated type has confirmed their great effectiveness. Because of these the capacities of the warehouses increased by 55-80 percent, cargo turnover per 1 square meter of warehouse space increased 2.2-2.5-fold, the conditions for storing material resources improved, and conditions were created for increasing the circulation of cargo.

But along with the aforementioned advantages of the combined method of storage in these structures there is an essential shortcoming--the open conditions for storing material resources which is caused by the perpendicular positioning of the shelves with respect to the crane paths. This limits their application in the northern oblasts of the republic because of the severe winters and the snowdrifts which cover not only the passageways, but also the blocks of shelves along with the cargo stored in them.

These shortcomings are not to be found in a warehouse of the elevated type with the combined method and conditions for storing material resources which was developed by the Alma-Ata Orgsnab branch. Its distinguishing feature is that it combines the framework shelves parallel to the crane paths of the open warehouse which is served by gantry, bridge or tower cranes.

The innovation proposed by the Alma-Ata designers makes it possible:

to utilize framework shelves not only as a device for storing cargo, but also in the role of construction elements which withstand the wind, snow and seismic loads. Wall elements are also attached to them (steel or asbestos cement sheets, panels and so forth);

to provide lateral, central or frontal areas for batching, transportation and warehouse operations, and also temporary stacked covered storage of groups of packages containing cargo;

to apply a minimal number--two transport gates with evacuation doors, which provides for better storage of the material resources and meets the requirements of fire protection.

The proposed technical decisions taken together make it possible to transform open structures into closed warehouses of the elevated type with the combined method (shelf-stack) and universal (open and closed) conditions for storing material resources within a single warehouse capacity. Moreover optimal conditions are created for their protection from theft and harmful weather conditions.

Workers of our branch have already developed about 20 plans for reconstruction of open warehouses which are equipped with gantry, tower and bridge cranes with the introduction of a warehouse of the elevated type at supply and sales enterprises of the Kazakh SSR Gosnab in Tselinograd, Oktyubinsk, Kustanay, Karaganda, Dzhezkazgan, Semipalatinsk and others.

Thus in Tselinograd at one of the enterprises of the Tselinogradglavsnab Administration they have put into operation a warehouse of the elevated type which is located on an area that is served by a tower crane with a span of 30 meters. It is intended for storing large pieces of sanitary and technical equipment, other equipment and fittings. The warehouse is a structure with a surface area of 25 x 48 meters and a height of 6.6 meters of bearing elements for the roof and floor. On the area at the zero mark a tower crane is to be installed, a tower crane parallel to the crane paths, and five two-ply and two rows (along the edges) of single-ply framework shelves which are divided into two compartments by a transverse central passageway 5.7 meters wide.

The supports for the shells are manufactured from hot rolled steel with perforations throughout the entire height, which makes it possible to regulate the height of the compartments by moving the shelves. Along the perimeter the warehouse shed is covered with profiled metal sheets, and they are fastened directly to the shelves by self-cutting bolts. Along the upper part at the 6.6-meter mark along the walls there are welded metal girders to which a flat metal roof made of grooved sheet steel is attached.

The element for the covering of the central passageway is lightweight and is not intended for storing cargo.

For access to the roof (elevated scaffold) from the ends there are two metal staircases, and along the perimeter of the roof and in the zone of the central passageway there is a guard rail. Double gates with frames and electric power have been installed. The gates are 4 x 4 meters.

Large sanitary and technical equipment is stored on the roof in stacks. Loading-unloading and warehouse work are done with a tower crane in this zone.

The covered storage zone is intended for keeping sanitary and technical glazed items, and the small sanitary equipment is kept in frame shells in packets that are formed on pallets.

Material resources are stored on the shelves on four levels. Loading-unloading and warehouse work are done with a BV 281756 automatic loader with rotating forks.

In order to put the cargo into sets and form packets, on the outside of the ends of the warehouse there are two open batching areas and one closed one--in the central zone.

In 1984-1985 similar warehouses will be put into operation in Aktyubinsk (Aktyubinskstroybumsnab Administration), Kustanay (Kustanaysnab Association), Karaganda (Karagandasnab Administration), Kzyl-Orda (Kzylordasnab Administration) and others.

What distinguishes them from the warehouse described above is their larger size: 63 x 25 x 5.4 meters and their location in the zone of operation of KKS-10 gantry cranes with a lifting capacity of 10 tons and a distance between the rails of 32 meters.

The interesting development of the designers of the Alma-Ata branch of the institute is continuing to be improved. For the Semipalatinsknsnab Administration it was suggested that they construct an elevated warehouse with two principal differences from the previous ones. It is located in a 20-meter interrail area of the KKS-10 gantry crane. For the basic warehouse equipment they have utilized for the first time elevated unified shelves which are plant-manufactured of the 1696 type. The formation of packets, transportation and storage of material resources in the zone of shelf storage are carried out on solid pallets with measurements of 1,200 x 800 millimeters.

In order to mechanize loading-unloading and warehouse work here they use the domestic EP-1009 electric loader with rotating forks, which has made it possible to reduce the spaces between the shelves from 2.4 to 1.7 meters.

The warehouse has dimensions of 38 x 13.7 x 5.2 meters. At its ends there are to be two expediting-batching areas of 5 x 13.7 meters. Because of this the technology of the warehouse work is organized according to the flow line-passage system.

One can judge the expediency of constructing open warehouses with the introduction of one or another of the design-technological solutions considered above from a comparative analysis of the technical and economic indicators. The introduction of the innovations makes it possible to increase the capacity of the warehouses 3-3.2-fold, the space--2.8-3.1-fold, and the output of cargo from 1 square meter--on the average, threefold. Moreover, the proportional capital investments decrease to five-sevenths the previous amount per 1 ton of capacity and ten-thirteenths the previous amount per 1 ton of space.

The economic effect from the introduction of the aforementioned plans will amount to an average of 35,000 rubles per one warehouse; the proportional effect per 1 ton of increase in capacities will be about 10 rubles per year with a double reduction of the cost of cargo handling. The time period for recouping expenditures on construction will be from 1.5 to 3 years, while the normative time period is 7.3 years.

As was noted, warehouse structures of the elevated type can be divided into two groups according to their design: open warehouses with elevated shelves which are designed for supply-sales enterprises in Alma-Ata and Petropavlovsk, and warehouses of the elevated type in Tselinograd, Aktyubinsk, Kustanay, Semipalatinsk and Kzyl-Orda.

The highest technical and economic indicators in the first group are reached with the warehouse with elevated shelves in Alma-Ata, and in the second group--the warehouse of the elevated type in Kzyl-Orda. Here preference should be given to the second group of warehouses which not only provide better conditions for storing materials, but also achieve the greatest effectiveness of capital investments.

Of the structures of the elevated type, the best technical and economic indicators are found in the warehouse in Semipalatinsk, where frame shelves No 1696 are used. Its capacity and useful space increases 1.8-2.3-fold; the time periods for reconstruction decrease to one-third to one-fourth; and the labor-intensiveness of construction and installation work decreases to five-sixths to two-thirds. The proportional indicators are also twice as great--5.3 rubles per 1 ton of cargo turnover.

The experience that has been accumulated by supply workers in operating the reconstructed buildings shows the re-equipping open structures into warehouses of the elevated type is not only economically expedient, but also necessary. Because of the effective updating, warehousing becomes more intensive, the shortage of enclosed premises is eliminated, and irreversible losses of material resources decrease.

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## ECONOMIC MODELING AND COMPUTER TECHNOLOGY APPLICATION

## RSFSR GOSPLAN OFFICIAL ON COMPUTERIZATION OF OPERATIONS

Moscow PLANOVYE KHOZYAYSTVO in Russian No 10, Oct 84 pp 53-58

/Article by B. Volchkov, director of the Scientific Research Institute of Automated Control Systems under the RSFSR Gosplan: "Automated Control System for Planning Calculations of the RSFSR Gosplan: Results of Introduction and Prospects for Development"

/Text/ In accordance with the task "to introduce and efficiently utilize the automated system for planning calculations"<sup>1</sup> set in Basic Directions of the Economic and Social Development of the USSR for 1981-1985 and for the Period Until 1990 provision is made for the completion in 1985 of the establishment of the second stage of the automated system for planning calculations of the USSR Gosplan /State Planning Committee/ and state planning committees of the Union republics.

Assignments for the designing and introduction of the second stage of the ASPR /automated control system for planning calculations/ of the RSFSR Gosplan /State Planning Commission/ have been set and provision has been made for the development of principles of a system of computer calculations ensuring an increase in the variance and balance of draft plans for the republic's economic and social development, promptness of their preparation and optimization of planning solutions. A systematic increase in the system's efficiency through the unification of planning problems solved with an extensive utilization of economic-mathematical methods and computer hardware, as well as through the organization of an interaction between various levels of the ASPR and automated control systems of ministries and departments and on this basis a rise in the overall nature of the drafted plans for the economic and social development of the RSFSR, is the fundamental feature of the second stage of the ASPR.

The results of the last 3 years of the current five-year plan show that the assignments set, essentially, are fulfilled successfully. A total of 402 out of the 503 sets of problems of an obligatory list for 28 functional subsystems of the ASPR of the RSFSR Gosplan subject to introduction, that is, 80 percent of the five-year assignment, have been worked out and introduced. Furthermore, more than 30 sets of problems have been worked out in excess of the obligatory list. For eight systems in 1983 the assignments of the five-year plan have been fulfilled completely.

<sup>1</sup> "Materialy XXVI s"yezda KPSS" /Materials of the 26th CPSU Congress/, Moscow, Politizdat, 1981, p 198.

This made it possible to constantly increase the number of computer-solved problems for the departments of the RSFSR Gosplan. For example, whereas in 1980 a total of 1,228 problems were solved on computers, in 1983, about 3,500, that is, 2.8 times more. Now almost 60 percent of the documents of the draft of the annual plan for the economic and social development of the RSFSR are created by means of computer-performed calculations. To attain the indicated results, it was necessary to take a number of measures aimed at the development of the computer base of the ASPR of the RSFSR Gosplan (primarily, equipping the departments of the RSFSR Gosplan with minicomputers), utilization of the most productive methods of programming planning problems and standard design solutions, improvement in the organization of ASPR designing, a constant improvement in the skills of planning workers and developers and ensuring their efficient interaction in the process of formulation and solution of these problems.

Ensuring the overall nature of planning problems was the main direction in the increase in the efficiency of the ASPR in planning work during those years. At the stage of commissioning of the first stage of the ASPR of the RSFSR Gosplan it was revealed that the scattered and local nature of some computer-performed calculations demanded from specialists a subsequent additional coordination of their results among themselves and with calculations performed by the traditional method, which did not make it possible to lower the labor intensiveness of the preparation of initial information and did not give a significant time advantage.

In connection with this in 1981 the functional subsystems of the ASPR of the RSFSR Gosplan were designed only for sets of problems. The unification of problems having a common economic content and data base into sets for their solution on computers in a single technological mode became the first step on the path of integration of the system of computer calculations. As practice has shown, in this case the variance of calculations increases considerably and their analytic part expands, as a result of which the balance and substantiation of planning projections rise. Checking initial information for big sets of problems by methods of computer logic control is an important factor. This has proved to be especially effective for sets of problems of a consolidated nature, for which projections of oblast planning commissions, ministries and departments represent initial information. As existing experience indicates, this information often contains errors. For example, a check of the draft plan submitted to the RSFSR Gosplan has disclosed such a lack of coordination as the reception of noncomparable data on volumes of construction and installation work and volumes of capital investments and noncorrespondence of constituent indicators to the total, not to mention simple arithmetic errors distorting results. A check of information in such a volume without a computer is virtually impossible. Therefore, projections containing erroneous data received at the RSFSR Gosplan are now returned on the basis of the results of computer control for further refinement. Thus, the changeover from the solution of individual problems to their sets has made it possible to definitely raise the level of planning work, which is also indicated by the increased interest on the part of specialists in calculations for sets of problems.

An intra- and intersubsystem coordination of sets of problems is the next step in the integration of planning problems into a system. In the ASPR of the RSFSR Gosplan such an approach has been realized in a number of subsystems. For example, in the "nature protection" subsystem all problems have been unified into sets according to the corresponding types of planning. A coordination of sets of problems concerning calculations of the share of ministries and departments in construction and installation work on the RSFSR territory with an intracomputer exchange of information among the subsystems "housing construction," "municipal services" and "construction and the construction industry," as well as with the connection of a number of sectorial subsystems to the consolidated calculation, has been effected at an intersubsystem level.

The development and introduction of a central set of economic planning problems, which can be considered a distinctive nucleus of the designed system, are the most important forms of integration of planning problems. At the second stage of the ASPR of the RSFSR Gosplan the central set of economic planning problems is considered a specialized intersubsystem set of problems, which should ensure a variant study and mutual coordination of key sectorial and consolidated indicators with the formation of consolidated volumes of proposals in the RSFSR for the draft of Basic Directions of the Economic and Social Development of the USSR and the draft of the five-year plan for the economic and social development of the RSFSR. Scientific research and planning work made it possible to develop programs and methodological, information and technological support for the central set of economic planning problems and in November-December 1983 to carry out their experimental operation for the first of the above-mentioned problems in the economy subordinate to the RSFSR Council of Ministers. Its results showed the expediency and efficiency of introduction of the central set of economic planning problems. At the same time, however, they disclosed a number of methodological and organizational problems brought about by the first experiment in the realization of systems calculations on computers, which involved virtually all the departments of the RSFSR Gosplan. By the next stage of operation of the central set of economic planning problems during the development of the draft of the five-year plan it will be necessary to solve a number of problems for the elimination of the difficulties that arise.

At the same time, experience has shown that the changeover to the system of computer calculations sets new problems not only in the area of data processing technology and its hardware, software and information support, but also in the area of the methodology and organization of plan drafting. The latter is the most important for an evaluation of the prospects for the development of the ASPR. It is not even a matter of the problem of utilization of economic-mathematical models, which has its characteristics and deserves an independent examination.

Methodological difficulties arise during the coordination and balancing of some planning forms according to interconnected indicators (calculations of the utilization of production capacities, fixed capital, capital investments and production of products). These difficulties are predetermined by certain differences in the methodological principles of calculations of the above-

mentioned indicators (some indicators are planned for sectors, others, for ministries and departments, the projects for which they are calculated do not always coincide and so forth). In such cases planning workers use expert evaluations, the method of additional counts and other nonformalized methods. It is impossible to solve these problems by existing methods and automation equipment. Serious methodological work aimed at eliminating the disclosed deficiencies is necessary.

Organizational difficulties in the management of the system of interconnected calculations have also been disclosed. They are connected not with the organization of data processing (it was ensured by the development of appropriate programs for the input of data into the central data bank and their accumulation, processing, correction and output of results, as well as by the organization of the appropriate control service), but with the coordination of activities of the departments of the RSFSR Gosplan, especially at stages of the study and correction of the initial variant of calculations.

The further development of the ASPR, primarily the increase in the overall nature of calculations, necessitates an improvement in the methods and organization of planning work in accordance with the decisions of the 26th CPSU Congress, which contain the demand "to improve the organization of planning and the structure, forms and methods of work of planning bodies."<sup>2</sup>

The development of integration of planning problems means ensuring a linkage between automated systems of planning calculations of state planning committees of the Union republics, on the one hand, and of the USSR State Planning Committee, on the other, as well as their interaction with automated systems of ministries and departments. For the present the first steps have been taken in this direction in the ASPR of the RSFSR Gosplan. However, it is possible to sufficiently highly evaluate their effectiveness both for planning activity and for work on its automation.

The solution of a big set of problems concerning the calculations of the change in the value of products consumed and delivered by RSFSR ministries and departments in connection with the introduction of new wholesale prices and rates on 1 January 1982 was especially significant.

The Scientific Research Institute of Automated Control Systems under the RSFSR Gosplan received on magnetic tapes initial information from the State Computer Center of the USSR State Committee for Material and Technical Supply and classifiers and dictionaries, from the State Computer Center of the USSR State Planning Committee. The results of calculations performed on a computer of the YeS series were transmitted on a magnetic tape to the State Computer Center of the USSR State Planning Committee for subsequent consolidated calculations throughout the country. This made it possible to ensure a high accuracy and promptness of calculations and to eliminate large volumes of work on recording data on machine storage devices in organizations where they were received on magnetic tapes.

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<sup>2</sup>Ibid.

In the ASPR of the RSFSR Gosplan serious importance is attached to the development of work on interaction with automated control systems of ministries and departments and ASPR of local planning commissions in the Russian Federation. In 1984 this work is to be executed on the subsystems "capital investments" and "construction and the construction industry" with the participation of a number of republic ministries. A big effect is expected from the organization of interaction with the automated system of state statistics of the RSFSR Central Statistical Administration, as a result of which report data will enter the data bank of the ASPR of the RSFSR Gosplan for a subsequent utilization in planning and information-reference calculations on magnetic tapes.

The increase in complexity and the integration of planning problems are accompanied by a qualitative change of the latter. This direction in ASPR development is expressed in the formulation of problems, which it is impossible to solve within a specific time with the required accuracy and substantiation without the use of computers, primarily problems with large volumes of initial information. They are widespread in the RSFSR Gosplan in connection with the special significance of the territorial aspect of planning in the republic carried out throughout 73 territorial administrative units (autonomous republics, krais, oblasts, Moscow and Leningrad) and large economic regions.

Thus, the drafting of the consolidated five-year plan for the entire economy on the RSFSR territory, irrespective of the subordination of associations, enterprises, organizations and construction projects (its volume totaled 6,600 sheets, including 1,400 planning documents), and of the five-year plan broken down by areas for the economy subordinate to the RSFSR Council of Ministers numbering 3,800 sheets with a computer in the form of 800 tables has been fully automated. It should be added that 22,000 sheets of extracts from the approved territorial plan have been formulated on a computer and sent to autonomous republics, krais and oblasts. It is clear that it is impossible to perform such a volume of work without a computer.

This category of problems includes computer-performed calculations of the consolidated plan for the development of the republic's agriculture, the formation of the data of the RSFSR Food Program on the basis of local food programs, the recalculation of plan indicators into new prices and rates and so forth. The solution of the indicated problems on a computer made it possible to significantly increase the promptness and accuracy of calculations and to improve the balance and substantiation of the plan through an expansion of the range of initial data and analytic calculations, not to mention that specialists were relieved of labor intensive and monotonous calculation work and were able to engage in creative planning activities to a greater extent.

The above-mentioned sets of problems are constructed on the basis of the existing method of planning and their effectiveness is determined primarily by the fact that the use of computers makes it possible to realize this method in a full volume. During the formulation of a number of problems attempts are made to solve them on a new methodological basis with the use of economic-mathematical methods and models contributing to the optimization of planning solutions. This direction in ASPR development is promising, but, at the same time, most complex. The accumulated experience has shown that within the ASPR framework models can be used in two basic modes.

One is determined by the use of models with a research-retrieval nature at the preplanning stage for the formation of the plan concept. Various models meeting the demands for reliability understood as the correspondence of the model's initial conditions (criteria, constraints and the list of indicators) to the essence of the solved planning problems and their information support are suitable for the above.

Stricter demands are placed on models used directly in the process of preparation of draft plans. The need for an organic inclusion of every model in the logic circuit of plan drafting becomes the main demand. Therefore, a calculation according to a model should be based on information formed during the solution of planning problems preceding this calculation according to the logic of planning. The time cycle of the model calculation is not to disrupt the operational mode of plan drafting and its results are to ensure the reception of information necessary for the preparation of planning documents and performance of subsequent calculations.

For the present the strictness of these demands limits the quantitative increase in the utilization of economic-mathematical methods and models. At the same time, however, it ensures the actual application of introduced models in planning practice, which is exemplified by multivariant calculations in the group of interconnected sets of problems of the "production" block of the "meat and dairy industry" subsystem. They are based on a system of models with the output of results in the form of appropriate plan forms.<sup>3</sup> The correction of initial data for the formation of variants is made from a computer display, which is convenient for debugging operational calculation technology.

Important directions in the establishment and development of the ASPR of the RSFSR Gosplan include the automation of problems supporting planning activity. For a number of years the "personnel" information-retrieval system has been in operation and problems of control over the arrival at the Gosplan of draft plans of RSFSR ministries and departments have been solved on a computer. The automated system of control over the execution of documents (ASKID) was put into operation in 1983. Its functions are to be expanded systematically. The automated system of legal information (ASPI) underwent an experimental operation. Serious significance is attached to the development of such systems, because with their introduction the level of organization of planning work and, ultimately, its quality rise.

The indicated directions in ASPR development should be based on an improvement in its computer base, methods, facilities and organizational forms of information processing and interaction of planning workers with computers. A number of measures in this area have been implemented in the RSFSR Gosplan: The second computer of the unified series has been put into operation, the

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<sup>3</sup>Yu. V. Chistyakov, "System of Economic-Mathematical Models of Development of the Draft of the Annual Production Plan of the Meat and Dairy Industry." In the collection "Funktional'nyye podsistemy avtomatizirovannoy sistemy planovykh raschetov (ASPR) Gosplana RSFSR" /Functional Subsystems of the Automated System of Planning Calculations (ASPR) of the RSFSR Gosplan/, Moscow, Izd. TsENII i NII ASU pri Gosplane RSFSR, 1981.

pool of minicomputers is increasing constantly and minicomputers or their terminals have been installed in 24 departments. Plans are also made to install displays from the YeS computer series in departments. The further development of the computer base should be carried out along the path of organization of a system of distributed data processing, which is based on the YeS computer series connected along communication channels with minicomputers and terminals installed at work places of specialists and in the room for collective computer use. This will make it possible to ensure an immediate direct access of planning workers to computing facilities, information support and programs and a higher reliability of the computer system and efficiency of its utilization on the basis of a rational distribution of data processing functions among the YeS computer series, minicomputers and terminals.

Taking into consideration the territorial scale and specific nature of the planning of economic and social development in the Russian Federation, the republic's Gosplan attaches serious significance to the development and introduction of automated systems for planning calculations of local planning organs (ASPR MPO)--state planning committees of autonomous republics and kray and oblast planning commissions. The organizational forms of the indicated operations have been determined and plans are made to conduct scientific research and design studies, to introduce functional subsystems and to develop the computer base of planning commissions.

The planned development of automated systems for planning calculations of local planning bodies in the RSFSR has been carried out since the beginning of the current five-year plan, although in a number of oblasts (Moscow, Sverdlovsk, Tomsk, Chelyabinsk and so forth) this work has begun much earlier. During the 11th Five-Year Plan the development of automated systems for planning calculations is planned for 71 planning commissions of autonomous republics, krays and oblasts in the RSFSR. The structure of functional subsystems of automated systems for planning calculations of local planning organs has been determined and a head planning commission has been appointed for each of them. Head commissions have been entrusted with the outstripping development of technical assignments for appropriate functional subsystems, transfer of finished developments to other planning commissions and methodological assistance to them. The Moscow Oblast Affiliate of the Scientific Research Institute of Automated Control Systems under the RSFSR Gosplan is the head organization for the establishment of automated systems for planning calculations of local planning organs in the RSFSR. It has been entrusted with scientific and methodological guidance and coordination of scientific research and planning work on this problem, as well as of the introduction of the indicated work.

The number of planning commissions in the Russian Federation actively introducing and operating automated systems for planning calculations has increased considerably during the past years of the five-year plan. They include Leningrad, Kostroma, Orenburg, Perm, Tula and other oblast planning commissions. At the same time, the exchange of developments executed by planning commissions--from technical assignments for functional subsystems to technical documentation for individual sets of problems--plays a positive role.

This factor is especially important in connection with the fact that as yet not all planning commissions have been able to organize their planning and computer base. For the present this problem is solved individually for every planning commission: Computer centers for collective use (Tomsk and Tula) and computer centers of oblast executive committees and oblast planning commissions (for example, in Leningrad and Sverdlovsk) have been established and function. Higher educational institutions and organizations of the Ministry of Instrument Making, Automation Equipment and Control Systems, the State Committee for Science and Technology and the Central Statistical Administration located in oblast centers are enlisted in the indicated work.

Taking into consideration the importance of the establishment of the computer base of automated systems for planning calculations of local planning organs for the republic, the RSFSR Gosplan organized an investigation of the ways of solving it over a long-term period with due regard for the development of the network of computer centers of the RSFSR Central Statistical Administration.

On the basis of the positive experience in the extensive utilization of minicomputers, a preferential equipment of planning commissions with the Iskra-226 minicomputer is envisaged in the RSFSR Gosplan. This, of course, does not mean giving up the use of other types of computers, in particular the YeS computer series and systems of small computers used in a number of planning commissions. During selection for operation it is necessary to take into consideration the functional capabilities of every type of computer.

As practice indicates, with a correct organization of the introduction of minicomputers positive results are attained in a short time and capital expenditures are minimal. The Tula Oblast Planning Commission, which has become the leading in the republic in the automation of planning calculations on the basis of the Iskra-226 minicomputer, can serve as an example. Measures are taken to equip planning commissions with the indicated computers. The Scientific Research Institute of Automated Control Systems under the RSFSR Gosplan provides them with standard software developed especially for the Iskra-226 minicomputer and conducts short-term lessons with specialists of planning commissions, at which methods of programming and operator's work and the experience in the introduction of automated systems for planning calculations in the republic are studied. An organization of a more thorough instruction in this in a number of higher educational institutions is envisaged.

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REGIONAL DEVELOPMENT

FURTHER INTEGRATION OF REPUBLIC ECONOMIES URGED

Kiev EKONOMIKA SOVETSKOY UKRAINI in Russian No 11, Nov 84 pp 3-9

[Article by P. Bakumenko, professor: "A Solid Economic Basis for the Brotherhood of Soviet Nations"]

[Excerpts] The accountability report of the CPSU Central Committee to the 26th CPSU Congress, the decisions of the May and November (1982), June and December (1983) and February and April (1984) plenums of the CPSU Central Committee, the decrees of the party Central Committee, "On the 60th Anniversary of the Founding of the Union of Soviet Socialist Republics" and "On the 80th Anniversary of the Second Congress of the RSDRP," in the materials of the joint festive meeting of the CPSU Central Committee, the USSR Supreme Soviet and the RSFSR Supreme Soviet devoted to the 60th anniversary of the USSR give a comprehensive analysis of the significance of the international cooperation of the sister nations and point out the need to search for new methods and forms of work which correspond to today's requirements and which will make this cooperation even more fruitful.

International unity of the Soviet people is reflected in the high level of integration of economic life of the union republics. With the building of a developed socialist society "the economy of the USSR comprises," as it says in the USSR Constitution, "a unified national economic complex which embraces all areas of public production, distribution and exchange on the territory of the country."

The solidarity of all the union republics in this mighty unionwide organism has raised their cooperation to a new level and opened up broad possibilities for, as K. Marx predicted, "a harmonious national and international coordination of public forms of production"<sup>1</sup> (Marx, K. and Engels, F., "Soch." [Works], vol 17, p 533). The relations of friendship and fraternal cooperation and the coming together of nations have opened up the broadest possibilities for accelerated development of all the union republics.

Each union republic and large economic region is an indispensable component of the unified national economic complex and an economic subsystem of it. At the same time it is a complex organism with its own territorial production structure. The coordination of all spheres of economic life on the scale of our country and each republic is carried out in a unified system of plans, in

the unity of economic and financial-credit policy and the policy of incomes and prices. In this unified national economic complex each of the republics specializes, under the planned policy, in the development of those branches and productions which are most effective and correspond to its natural and economic conditions. Specialization presupposes close mutual contacts among production units and cannot exist without the cooperation. Thus, for example, for extracting the petroleum (including gas condensate), gas, and coal and producing metal-cutting machine tools, tractors, chemical equipment, cement, fabrics, refrigerators, television sets, furniture and many other kinds of products, the Russian Federation occupies the leading position in the USSR.

The Ukrainian SSR is a specialized economic region of the fuel, metallurgical, machine building, chemical and the food industry. The Belorussian SSR produces every seventh (in terms of capacity) tractor and every eighth metal-cutting machine tool. The production of motor vehicles, radios, chemicals and other kinds of industrial products are of great nationwide significance. In recent years there has been comprehensive development of the economy of the Kazakh SSR. The republic has become one of the largest regions in the country for the coal, petroleum, mining, light and the food industry; the country's main nonferrous metallurgy base is located here. As a result of the assimilation of virgin and long-fallow land, Kazakhstan has taken over one of the leading positions in the production of grain and animal husbandry products.

An indispensable part of the USSR national economic complex is the Central Asian Economic Region which includes the Uzbek, Kirghiz, Turkmen and Tajik republics. Thus, for example, today the Uzbek SSR has created one of the largest fuel and energy bases in the country. Ferrous and nonferrous metallurgy and the petroleum and petroleum-processing industry are developed here, and also almost all of the production of cotton-harvesting machines and most of the cotton-cleaning equipment, cotton fiber and raw silk is concentrated here.

The economies of the Caucasian republics are developing at rapid rates. Thus the Georgian SSR is a region of developed electric energy, machine-building and the chemical industry, and subtropical crops and tea are cultivated here; the Azerbaijan SSR is a region of the petroleum industry and ferrous and nonferrous metallurgy; and the Armenian SSR is a region of nonferrous metallurgy in the production of synthetic resins.

The republics of the Soviet Baltic area play a large role as regions of developed nonmetal-intensive precision machine building, the chemical and several other branches of industry. The Estonian SSR is the main base for extracting fuel shale in the country.

The Moldavian SSR is a large region of the food industry. Gardening, viniculture and farming are extensively developed there.

The most important forms of the interrepublic economic ties are the reciprocal deliveries of machines and equipment, raw materials, processed materials, individual items and components on the basis of cooperation; the ties along the line of state, cooperative and kolkhoz trade; and scientific-technical

cooperation and exchange of experience in the operation of industrial enterprises, kolkhozes and sovkhozes. It should be noted both the importing and exporting of products are increasing, primarily as a result of those products which are produced for unionwide needs. The example of the economy of the Soviet Ukraine is indicative in this respect.

The most widespread economic ties are between the Ukraine and the RSFSR, which account for about three-fourths of the interrepublic cargo turnover of the Ukrainian SSR.<sup>2</sup> The RSFSR is the main supplier of the petroleum, petroleum products and natural gas to the Ukraine. In turn, the Ukrainian SSR sends to the RSFSR electric energy, coal, iron ore, rolled ferrous metals, mineral fertilizers, cement, machine-building products and so forth. The Ukraine has permanent extensive and varied interrepublic ties with Belorussia. The Ukraine is the main supplier of iron, rolled ferrous metals and pipes to Belorussia. In turn, the BSSR is the main supplier of the Ukrainian SSR with mineral fertilizers and construction glass. Economic ties with other Soviet republics are also significant. Enterprises of almost 200 cities of the USSR deliver various kinds of technical equipment to the Ukrainian rural areas alone. One can judge how all-encompassing and large-scale the interrepublic economic ties are from the fact that material production, for example, in the Kazakh SSR uses products for more than 96 branches of the national economies of the sister republics, and Kazakhstan itself participates in providing deliveries from 74 branches of its economy. The Moldavian SSR receives products of 93 branches from other republics, and itself sends them products for 75 branches.<sup>3</sup>

The CPSU and the Soviet state are devoting more and more attention to the development of stable economic ties among branches and enterprises and the improvement of organization of cooperative deliveries both within individual economic regions and on a unionwide scale. For example, more than 2,000 enterprises and 100 scientific research institutes and planning and design organizations of the country participated in the construction of KamAZ in Tatarskiy. Equipment for KamAZ was manufactured by 5,000 plants, combines and factories. Construction materials and various kinds of technical equipment were delivered from 307 cities. Emissaries from 96 cities and oblasts and representatives of more than 80 nationalities of the USSR worked on the construction site.<sup>4</sup>

Autonomous republics, autonomous oblasts and okrugs are also included in specialization and cooperation. For example, products of the Kolymy ASSR go to 13 union and 13 autonomous republics and 48 oblasts and krais of the RSFSR, and they receive the necessary products and raw materials from 14 union and 12 autonomous republics and 46 oblasts and krais of the RSFSR. From the Bashkir ASSR products of the Sterlitamak Soda Production Association are sent to 300 recipients throughout the country, and products from the Ufa Plant for Synthetic Alcohol--to 200 clients.<sup>5</sup> Specialization and cooperation of production in the union and autonomous republics has now assumed such a scope that tardiness in reciprocal deliveries can sometimes affect the fulfillment of plans not only of individual enterprises, but even of entire branches of the national economy. Completing these deliveries is no longer just a matter of economic discipline, but also a matter of national honor and internationalist duty.

One of the most important conditions for the development of the unified national economic complex of the USSR is further improvement of efficient distribution of productive forces. The Basic Directions for the Economic and Social Development of the USSR During 1981-1985 and the Period Up to 1990 carefully take into account both the general interests of the Soviet people and the needs and demands of all nations and nationalities of the union. These directions envision further development of territorial production complexes, especially in newly assimilated regions. There are 11 territorial production complexes in the stage of active formation, seven of them being the Russian Federation (Kansk-Achinsk, Kurst Magnetic Anomaly, Western Siberia, Sayansk, Bratsk-Ust-Ilim, Timan-Pechora, and Southern Yakutsk), three in Kazakhstan (Mangyshlak, Pavlodar-Ekivastuz and Karatau-Dzhambul) and one in Tajikistan (Southern Tajik).<sup>6</sup> The eastern regions and the new territorial production complexes have immense potential capabilities. Thus in Southern Yakutsk and the Zyryan basins alone the supplies of coal suitable for coking amount to about 88 billion tons, the supplies of brown coal amount to more than 1.5 trillion tons, and there are up to 6 billion tons of iron ore suitable for working by the open pit method.<sup>7</sup>

The BAM plays a large role in actively bringing the richest natural resources into economic circulation. The Baykal-Amur railroad which is 3,150 kilometers long went into operation by the time of the 67th anniversary of Great October, a year before the planned deadline. It will contribute to efficient solutions to the most important economic and social problems related to further development of Siberia in the Far East.

The construction of the BAM became a nationwide cause. Thus emissaries from the Ukraine constructed the railroad center and village of Urgal. For 10 years in this remote corner of the Tayga there arose squares of multistory residential buildings, a boarding school, children's combines, a palace of culture and a hospital complex. The village also has a youth cafe, a railroad terminal and a stadium. With the help of Tajikistan they constructed the Soloni station, and in Belorussia--the Zalotnika. Other sections are under the guardianship of Georgia, Kazakhstan, Armenia, Moldavia, the republics of Central Asia and the Baltic area. Severobaykalsk is the project of the Leningrad workers, and Muscovites helped to construct the "capital" of the BAM-Tynda. In essence the BAM can be called a route of friendship of peoples.

We are continuing to implement a comprehensive program for the development of the Nonchernozem Zone of the RSFSR, which includes 29 oblasts and autonomous republics with a territory of almost 3 million square kilometers, where more than 61 million people live and 24 percent of the arable land of the Russian Federation is concentrated. Further development of the Nonchernozem Zone of the RSFSR has become a cause for all Soviet people. All the union republics, providing patronage for the region of the Nonchernozem, contribute with their personnel and material values to more rapid development of the Nonchernozem Zone of Russia. And in the fact that on the Russian expanses we are constructing enterprises and sovkhozes which have names like Uzbekistan, Belorusskiy and Estonskiy the Soviet people see the vital force of socialist internationalism and the fraternal mutual assistance of nations.

The development of the unified national economic complex of the USSR is closely related to the improvement of the system of management of the national economy. Thus the growth of new large economic regions and territorial production complexes gives rise to a number of difficult problems in managing the economy of the USSR and the union republics. And above all there is the problem of combining the management of individual branches of industry and the interbranch associations that are being created and are functioning on the territory of one or several union republics. This problem involves overcoming interdepartmental barriers and providing for balance of all units of the economic mechanism.

The USSR has already created and put into operation such interdepartmental associations as the Commission of the USSR Council of Ministers on Questions of the Development of the Western Siberian Petroleum and Gas Complex, and the interdepartmental territorial commission under the USSR Gosplan which is located in Tyumen. "These are steps in the right direction," it was noted at the 26th CPSU Congress. "They can help to manage the territorial production complexes better and to take into account and combine regional and branch interests better."

One of the most important aspects of improvement of the distribution of productive forces is efficient utilization of labor resources. As we know, the territory of our country is characterized by an irregular distribution of natural wealth and labor resources. Most of the discovered mineral, energy, water and timber resources are located in the eastern and northern regions of the country, while they are consumed mainly in the western and southern parts. The marked difference in the rates of reproduction of the population in various regions of the country affects the distribution of productive forces. The RSFSR, the Ukraine, Belorussia and especially Latvia and Estonia as well as Lithuania, to a certain degree, are republics with an extremely high level of employment of people in the national economy. The greatest natural growth of the population (more than 30 percent of the unionwide growth) is observed in the republics of Central Asia. The demographic situation in the USSR is thus fairly complicated. The importance of developing an effective demographic policy was pointed out by the 26th CPSU Congress. "In Central Asia and in a number of regions of the Caucasus...there is a surplus of labor resources, especially in rural areas," it was emphasized at the congress. "And this means that it is necessary to more actively enlist the population from these places in the assimilation of the new territories of the country. And, of course, the industries necessary for the national economy should be developed here and there should be more extensive training of skilled workers of the indigenous nationality, above all among rural youth." Yet the modern level of development of our society makes it society, as V. I. Lenin wrote, "to move tens and hundreds of thousands of workers to wherever Soviet power needs them."<sup>8</sup>

The migration of population from regions where there is a surplus of labor force to newly assimilated regions of the country will contribute to greater enlistment of national personnel in modern production, to the growth of new cities and villages and international collectives, and to the development of progressive kinds of labor activity. This is shown by the fact, for example,

that representatives of about 18 nations and nationalities are working on the BAM.

Thus further improvement of the distribution of productive forces in the union republics is a necessary element for the development and strengthening of the economic community of the multinational Soviet people and an objective pattern in the development of the socialist society.

One of the most important factors in strengthening the country's unified national economic complex and international unity of peoples of the USSR is socialist competition. Thus all 25 oblasts of the Ukrainian SSR, 33 cities, 250 city and rural rayons, collectives of 4,305 enterprises, organizations, kolkhozes and sovkhozes are competing with 29 oblasts, 53 cities, 328 city and rural rayons and 4,851 labor collectives of the RSFSR, Uzbekistan, Armenia, Estonia, Belorussia, Georgia, Moldavia and other republics.<sup>9</sup> The same phenomenon can also be observed in the life of other union republics since constant cooperation of the nations which is steadily becoming stronger has become a vital condition, an important basis for the creation of the new socialist society in our country.

On the basis of comprehensive development of the economies of the republics we have basically solved the problem of equalizing the levels of their economic development. As was noted at the 26th CPSU Congress, in the Soviet Union there are still backward national regions. Bringing the levels of development of the republics closer together made it possible to provide for relatively equal conditions for their all-around progress on the basis of complete utilization of natural, material and labor resources. This, however, does not mean that we have completely eliminated the differences between them. Certain differences still remain, but now they are no longer associated with the backwardness of one republic or another. Such, for example, are the differences in the level of production of one product or another per capita or per unit of territory. When directing the development of all republics, autonomous oblasts and okrugs, the party scientifically substantiates the new goals of the flourishing of their economies and further equalization of the levels of economic development.

Thus under the 11th Five-Year Plan the production of industrial products in the USSR, according to the plan, should increase by 26-28 percent, and for six republics, even more: for the Belorussian SSR--26-29 percent, the Uzbek SSR--28-31 percent, the Azerbaijan SSR and the Armenian SSR--29-32 percent, and the Georgian and Moldavian SSR--30-33 percent. For the six republics there is also to be more accelerated growth of the gross agricultural output than in the country as a whole (12-14 percent). For the Turkmen SSR it is to be 14-16 percent, the Azerbaijan SSR--15-17 percent, the Uzbek SSR--17-19 percent, the Moldavian SSR--20-22 percent and the Georgian SSR--22-24 percent. All this will exert a significant influence on the solution to the problem of overcoming the still-existing differences in the levels of economic development of the union republics. It is precisely the leading role of the communist party that provides the possibility of fully utilizing the potentials of developed socialism in order to solve the problem of equalizing the levels of economic, sociopolitical and spiritual development of the union republics and all nations and nationalities of the USSR.

One must say that developed socialism has already made and continues to make a significant contribution to solving the historical problem of equalizing the levels of development of the republics. This is shown by the rates of growth of the overall volume of industry during the period of 1980-1983: for the USSR--11 percent, and for Belorussia, Uzbekistan and Georgia--15 percent, for Armenia--17 percent, Azerbaijan--18 percent and Moldavia--20 percent. In the first half of 1984 there was also an increase in the rates of growth of industrial production. While compared to the same period of 1983 the increase in industrial output for the USSR amounted to 4.5 percent, for the Azerbaijan SSR it was 5 percent, the Armenian SSR--5.8 percent, the Belorussian SSR and the Georgian SSR--6.1 percent, the Lithuanian SSR--6.6 percent and the Kirghiz SSR--8.2 percent.<sup>10</sup>

The CPSU and the Soviet state, while providing for further equalization of the levels of economic development of the Soviet republics, thus are creating conditions for the utilization by each republic of the entire economic and scientific-technical potential of the country. The achievements of the union and autonomous republics in increasing their contribution to strengthening the country's unified national economic complex are at the same time an indicator of their successful national development and flourishing.

#### FOOTNOTES

1. Marx, K. and Engels, F. "Soch." [Works], vol 17, p 553.
2. See: Sul'zhenko, V. K., "Internatsionalizm na etape razvitogo sotsializma" [Internationalism in the Stage of Developed Socialism], Lvov, 1981, p 67.
3. Zamlinskiy, V. A., Melnichenko, V. B., Panibud'laska, V. F., "Leninskaya politika internatsionalizma" [The Leninist Policy of Internationalism], Kiev, Politizdat Ukrainy, 1983, p 157.
4. Likholat, A. V., Panibud'laska, V. F., "Vyedinoy sem'ye narodov" [In a Unified Family of Nations], Moscow, 1979, p 125.
5. Kulichenko, M. K., "Rastsvet i sbliizheniye natsiy v SSSR [Flourishing and Rapprochement of Nations in the USSR], Moscow, 1981, p 332.
6. Yevdokimenko, I. I., Yarygina, O. A., "Velikoye bratstvo narodov" [The Great Brotherhood of Nations], Moscow, 1982, p 96.
7. Kholmogorov, A. I., "Natsional'nyye otnosheniya v sotsialisticheskoy obshchestve" [National Relations in a Socialist Society], Kiev, 1982, p 52.
8. Lenin, V. I., "Poln. Sobr. Soch." [Complete Collected Works], vol 42, p 150.
9. VOPROSY ISTORII KPSS, No 1, 1982, p 12.
10. PRAVDA, 22 July 1984.

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## REGIONAL DEVELOPMENT

### STATISTICAL ANALYSIS OF TPK DEVELOPMENT DESCRIBED

Moscow VESTNIK STATISTIKI in Russian No 11, Nov 84 pp 41-42

[Article by N. Avramchikova, deputy chief of the Statistical Administration of Krasnoyarsk Kray: "Study of the Development of Territorial Production Complexes"]

[Text] As an object of statistical study the territorial production complex (TPK) is the part of the economy of the economic region in the country which represents the totality of enterprises and organizations of various branches of the national economy on a particular territory which are economically interconnected by the utilization of common regional natural and economic resources and conditions. Depending on the goal, the object of statistical observation can be the entire general totality of these enterprises, that is, the TPK as a whole with the peculiarities inherent in it, or its individual constituent branches or kinds of activity.

In order to study the development of the economies of territorial production complexes, state statistical agencies have been given the task of systematizing, processing and conducting various kinds of economic analysis of statistical information which comes in from the enterprises and organizations that are included in the TPK, the results of which should show how to provide for stable growth of production and improvement of its structure, to further improve social conditions and conditions for economy and uniform development of all elements of the TPK, and how to increase the effectiveness of production. Here special significance should be attached to control over the acceleration of the growth of the productivity of public labor, increased effectiveness of the utilization of labor resources, fixed capital and material resources, and the search for additional reserves for the development of the TPK.

There are eight large TPK's of national economic significance functioning in the country: the Western Siberian, Kansk-Achinsk, Sayansk, Southern Yakutsk, Timan-Pechora, the zone of the Kursk Magnetic Anomaly, Pavlodar-Ekibastuz and the Southern Tajik. The indicators established by the USSR Gosplan characterize both the production specialization of the complex and the production and social infrastructure.

But the established indicators are inadequate for a comprehensive analysis of the development of the TPK as a unified territorial-branch system of administration which is created for purposes of accelerated enlistment of natural resources into national economic circulation and the development of production in coordination with the assimilation of the territory. Therefore state statistical agencies must constantly work on improving the system of statistical indicators, particularly the consolidated indicators which characterize the effectiveness of public production at the TPK, its specialization and development of cooperation, as well as on raising the scientific level of the methodology of economic analysis of the results of statistical work.

Territorial production complexes, as a rule, are formed on the territory of one administrative unit at the oblast or kray level, but, in individual cases, the zones of the TPK cover part of the neighboring oblasts. Thus the zone of the Kansk-Achinsk TPK, which is located mainly in Krasnoyarsk Kray, includes also several rayons from Kemerovo Oblast. This circumstance impedes to a certain degree the statistical study of the development of the TPK since in the statistical agencies the observance of the activity of the enterprises and organizations is conducted strictly according to the territorial principle.

On the basis of the existing statistical reporting at the present time only statistical administrations of the oblasts (krays) conduct analysis of the activity of territorial production complexes as a whole. State statistical agencies of the rayons (cities) of a given oblast (kray) do not analyze the work of the enterprises that are included in the territorial production complex and are located on the territory of their rayons (cities).

Statistical administrations of the oblasts (krays), concentrating in themselves all of the statistical reports that characterize the activity of the TPK, prepare for the management agencies of the given oblast (kray) the information and also the analytical materials concerning the socioeconomic development of these complexes.

In order to improve the information supply for the management agencies for managing the territorial production complexes, it is necessary to carry out a number of measures for improving this work in the state statistical agencies at all levels. The statistical administrations of the corresponding oblasts (krays) can single out divisions for consolidated statistics of the group which would immediately conduct an analysis of the statistical information that comes in from the enterprises or organizations that are included in the TPK zone on the basis of the existing system of statistical indicators.

On this plane attention should be given to the statistical administration of Tyumen Oblast, where they have created a special division for preparing and issuing statistical materials regarding the Western Siberian Petroleum and Gas Complex. This, in turn, is related to the creation of an interdepartmental territorial commission for questions of the development of the Western Siberian Petroleum and Gas Complex under the USSR Gosplan which is located in the city of Tyumen.

In the statistical administrations of the oblasts (krays) on whose territory the development of the TPK is observed it would be expedient to create similar groups, which, in our opinion, will make it possible to present more efficiently the materials on the economic rayons and the TPK to the authorized staffs of the USSR Gosplan which have been created and which are charged with the responsibility of development and control of the plans for the development of these regions.

A great deal of coordination is required for the development of methodological guidelines for gathering statistical administration from the enterprises that are included in the TPK. The methodological instructions developed on the basis of indicators established by the USSR Gosplan concerning the policy for gathering, developing and analyzing statistical indicators which characterize the activity of the TPK are, as a rule, of a branch nature and are not sufficiently coordinated among the branches of statistics.

For those TPK's whose zones are located on the territory of two or several oblasts (for example, the Kansk-Achinsk TPK), the overall characteristic of their development is formed only at the republic level. Yet in such a kray center as the city of Krasnoyarsk the local management agencies participate most actively in the formation of the TPK and they must have the corresponding statistical figures regarding the entire group of enterprises that are included in the complex. One can solve the problem of organizing the receipt of data concerning the corresponding enterprises that are included in the TPK by the statistical administration of the base oblast (kray) from the statistical administration of the neighboring oblast in order to more fully provide management agencies of their oblast with statistical information concerning the course of the formation and development of the TPK as a whole.

The question of preparing statistical information concerning the development of the TPK at the rayon level is more complicated. Here this kind of work is practically not carried out since, as a rule, only a small proportion of the enterprises included in the TPK are located in the rayon (city).

In those cities which are TPK centers, albeit somewhat conventionally (Sharypovo in the Kansk-Achinsk TPK, Sayanogorsk in the Sayansk TPK) it would be necessary, in our opinion, to submit to the local management agencies all of the necessary information concerning the activity of the TPK, requesting the statistical data that are lacking for this from the kray statistical administration according to a program that is coordinated with it. This would help management agencies of the rayons (cities) to efficiently control the territorial production complexes locally. In order to solve this problem it is necessary to revise the list of recipients of statistical reports from the enterprises and organizations. Thus at the rayon level state statistical agencies do not have city bookkeeping accounts from enterprises and organizations which contain indicators of production cost, profit, profitability and so forth. It is necessary also to consider the question of reducing the time periods for submitting information to management agencies of the cities and rayons from the oblast (kray) statistical administrations.

Further supplying computer centers with modern electronic computer equipment will make it possible to process statistical information concerning the development of the TPK and its constituent parts more efficiently and to submit this information to local management agencies.

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